

AMERICAN BEE JOURNAL

March 1941



ARISTAEUS, THE FIRST BEEKEEPER
(Page 110)



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AMERICAN BEE JOURNAL

EDITORS: G. H. CALE, FRANK C. PELLETT,
M. G. DADANT, J. C. DADANT.

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MARCH, 1941



EDITORIAL

BUTTER VS. HONEY

FOR many years butter and honey sold at about the same average price per pound at retail. Thirty cent butter, thirty cent honey or twenty cent butter, twenty cent honey. But that was in the good old days. At that time there was no established market for either, and every producer sold when and where he could find a buyer. Then came a great change for the dairy industry with stabilized markets and eager buyers waiting a chance to take the output at the daily price quotation.

Unable to establish stable markets, the beekeepers took to cutting prices in an effort to move their crops. The result has been a disastrous plunge of downward prices until in most markets honey now sells at less than half the retail price of butter and too often at not more than one third the retail price which butter brings.

Orderly marketing has been the answer to the selling problems of the dairyman, and it seems doubtful whether there can be any other satisfactory solution of the sales problem of the honey producers.

MORE SUGAR

NOW that scientists have discovered a way to remove the starch from the juice from the ordinary sorghum so that the sugar will granulate, it seems probable that we may eventually have a sugar industry in the Middle West. The sorghum cane is one of the easiest plants to grow which yield a suitable sap for sugar manufacture.

It seems that the world is already making too much sugar, and much of the time producers of that commodity suffer because of surplus. However, we Americans consume enormous amounts of sugar, much of which is imported from abroad, and if it can be produced at home it will probably be done.

As one after another new sources of sweet appear, they offer increasing competition for the beekeeper. More and more we must look for markets

for honey which demand its peculiar qualities and give up trying to compete with sweets which can be manufactured in limitless quantity. If and when sugar is made from sorghum, it would seem that it would offer only one more source of a sweet already produced in ample supply but with no new claims to quality.

LOOKING AHEAD

THERE is an old saying that history repeats itself. It is by taking note of what has happened in the past that we are able to anticipate events that are to come. The first World War is still very fresh in the memory of many of our readers. They remember also the feverish effort to produce commodities to the maximum and the crazy boom that followed.

We need hardly to remind our readers of the result of all the senseless destruction and antagonism that accompanies war. This seems to follow a rather well-defined pattern. First the populace is made to feel that the last hope of the race lies in the destruction of the enemy. Every resource is turned into armament and men and money are sacrificed without restraint. All accumulations are consumed in the fury of the combat. When exhaustion finally overcomes one or the other of the combatants a truce is made and the slow process of rebuilding begins.

It is only when the storm has spent itself that the extent of the damage is realized. Always there is a short period of apparent prosperity when public resources are being spent for armament. Always there comes the time of collapse following some months after the end of hostilities. With money and credit exhausted there is no market for new goods and suffering becomes acute. Those who have assumed obligations are unable to pay and their holdings are taken from them.

We have every reason to expect that this present war will run true to form. While we are spending our resources, we will feel prosperous. When that is done, we will be faced with enormous debt, unemployment, and a degree of suffering that has never been equalled before. Those who are wise will take advantage of the

opportunity to reduce obligations and prepare as far as may be possible for the time of rough going that lies ahead.



PROTECT THE DEALER

A prominent wholesale grocer complains that too often the beekeeper sells to his trade at the same or less price than the wholesaler has paid. This compels him to reduce his buying price to protect himself. The dealer buys honey to sell again and must of necessity get a higher price than he pays. The beekeeper who undersells the dealer undermines his own market.

This wholesaler contends that the present trouble in the honey market is due primarily to this cause and that no one is to blame for the present low prices but the honey producer who refuses to protect the dealer in his legitimate margin of profit.

As an example our correspondent cites a case where he bought honey in sixty pound cans for six cents per pound expecting to pack it for the trade. He was caught short because a beekeeper supplied one of his best customers at five cents per pound.

It looks as though we can expect little stability in the honey market so long as honey producers continue to sell direct to the trade at prices so low as to leave no margin of profit. If all our product could be handled through a few central agencies this difficulty might be overcome and a stabilized market result. We have seen a greater measure of prosperity come to the poultrymen and dairy industries through such a plan of marketing.



SUNLIGHT AND NECTAR YIELD

FREQUENT comment has appeared on the heavier honeyflows which occur in the North than in the South. Just why this should be has not been clearly stated. It is also well known that nectar secretion is more abundant at high altitudes than at low altitudes in the same neighborhood.

Charles Darwin long ago noticed that stimulation by light is needed to secure secretion of nectar. This fact may explain the reason why

honeyflows increase in intensity as we move northward in summer and why more honey is harvested in bright sunny weather than when the days are cloudy.

The intensity of light increases as we rise to higher altitudes, and likewise as we move northward in summer the light becomes more intense. White Dutch clover is very abundant in Louisiana, and some honey is harvested from it there; yet it never yields such heavy crops as are harvested in the northern portion of its range. Numberless examples could be found to illustrate this point.

In the opinion of the writer the intensity of sunlight may determine the amount of nectar secretion, other factors being equal. Soil fertility, temperature, available moisture and many other factors enter in, but light appears to be far more important than has as yet been recognized.



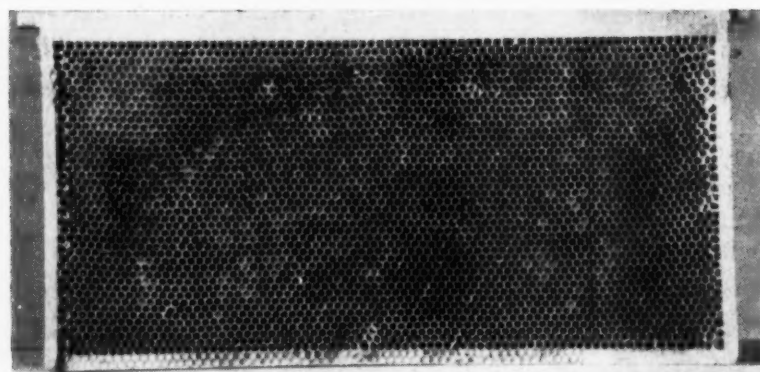
OLD BEE BOOKS

MANY of our most interesting books on bees are now out of print and can no longer be had unless second hand copies can be found. Those who have such books in private libraries should take steps to make them available to others when no longer needed. It often happens that at the death of the owner such books are no longer of interest to any member of the family and too often they are burned or sold for old paper.

There is no demand that will bring big prices for such books but there are many beekeepers who would like to own them. It is an opportunity for service rather than profit to which we call attention.

Among the books which have only recently been available but which are now out of print may be mentioned, "Advanced Bee Culture," by Hutchinson; "Fifty Years Among the Bees" and "A Thousand Answers to Beekeeping Questions," by Dr. C. C. Miller; "Honey Makers," by Margaret Morley; and "Beginners Bee Book," by Pellett.

Of special interest are the old bee magazines. Our libraries of beekeeping have looked in vain for files of several of the bee magazines that have suspended publication. Old catalogs of bee supplies and pamphlets or bulletins on beekeeping subjects are often of real historic interest. One who has such material should make sure that it goes to a proper depository when he no longer needs it.



A Perfect Comb After Twenty Years



If you want to see a comb that I know to be old, here is one I am sure has been in use twenty years. I have many from one to twelve years old, but this one is really an old timer. I have used thousands of pounds of Dadant's Crimp-wired Foundation and I find it not only saves me time but the combs I get from it stand up in use and can take the swing of the extractor without damage.

J. D. BEALS,
Minnesota.

For Everlasting Combs Use Dadant's Crimp-wired Foundation

You, too, will look with pride on your combs many years after they are drawn out. With Dadant's Crimp-wired Foundation you get combs that hold steadily to their job of service as brood combs; as honey combs; through extraction after extraction; through heat or cold; through rough handling and migration; saving you money every year of their life. Long after less sturdy combs have been rendered useless by the severe demands of modern honey production, these everlasting combs will still be doing their bit to reduce the cost of your beekeeping.

DADANT & SONS, HAMILTON, ILLINOIS

Makers of Famous Foundations Crimped-wired — Plain — Surplus



Guest Editorial
March Award Winner

FOLLOW MOTHER NATURE

By GLENN O. JONES

BEING of a mind to inquire within my own knowledge as to the probable cause and effect of certain conditions, as we find them, I have sought to satisfy myself as to the probable reason for the prevalence of American foulbrood. Basically, the organism responsible for the disease is a creation of nature and it has been provided with a way to perpetuate itself upon the earth. If it fed on the larva of the house fly, or grasshopper, or mosquito, or the codling moth, there is no doubt it would be a boon to mankind. But since it lives by taking the lives of our most highly prized insect, it creates a serious problem.

There is no evidence to indicate that this organism has been newly created as a plague upon us at any recent date. Since it is so well adapted in its life cycle to that of the honeybee, we may only assume that it has been upon this earth approximately as long as the honeybee itself, and, when we admit that, we immediately wonder how it comes that any honeybee has survived to this date, especially when we consider that entire apiaries have been destroyed by American foulbrood in a single season.

Having arrived at this unpleasant thought, we cast around for a way out. We are reminded that our entire environment, as set up by nature, is composed of checks and balances, not always in check or in balance, but nevertheless capable of adjusting themselves if allowed sufficient time. After nature has spent millions of years achieving an adjustment between the different types of life so each may live upon and be lived upon by other forms, man comes along upsets the apple cart, then wonders why Mother Nature is so unkind to him. The history of agriculture is filled with accounts of such struggles.

An example is found in the organized killing of predatory animals in the western mountains. After the predacious forms were eliminated, the rabbits multiplied in a prodigious manner and in their search for food they destroyed the brush and shrubbery along the streams. As brush and shrubbery, it was not of much value, but it was the home of an insect which was the main food of the trout, and without food even a trout cannot prosper. So by shooting a few mountain lions a lot of trout were killed. How little we understand or heed the lessons of nature.

With honeybees and their enemies, we must admit that only by a process of elimination of those bees unable to combat their enemies has it been possible for them to perpetuate themselves for such a long period of time. Only the best lived to beget their kind. Then, along comes the apple cart upsetter and tries to improve the species by selecting breeding stock on the basis of color or temper, or perhaps some purely personal standard of perfection, without serious regard for the past accomplishments of nature. As a result, the work done by Mother Nature, over a period of a million years, is pretty well obliterated in less than a century.

Now bees have again been found which still have the power to overcome the effects of American foulbrood, and we may be able in the future to make the disease an irritant rather than a menace. Let us not forget that nature used many factors in determining which bees should survive through the ages and that we cannot safely ignore any of them.

Atlantic, Iowa.

For Best April Editorial

The writer of the successful Guest Editorial for April will receive the following books, "The Golden Throng" by Edwin W. Teale; "The Sacred Bee," by Hilda M. Ransom; "Honey and Health," by Dr. Bodog F. Beck; "The History of American Beekeeping," by Frank C. Pellett. Each of the three runners up will also receive a copy of Dr. Beck's authoritative book, "Honey and Health." For further details, see page 112.

Only Lewis Hives Are 

ROTPROOFED

All 10-frame Beeware bodies now ready for shipment have been rot-proofed—a new Lewis improvement that controls decay of all exposed wood parts and repels termites. This exclusive Lewis advantage is apiary tested and equivalent to two coats of paint as a wood preservative. One coat of oily paint is recommended to prevent checking of wood grain but this rotproof treatment permeates the wood and makes hives last years longer. As fast as possible in 1941 all Beeware bottoms, wood covers, metal cover rims and super shells will be supplied rotproofed at no additional charge. New manufacturing facilities make this possible.

Every dovetail in every Beeware body, super or cover is ready bored for nailing as are all slotted bottom bars in Lewis frames.



Aeroplane view of enlarged Lewis plant at Watertown.

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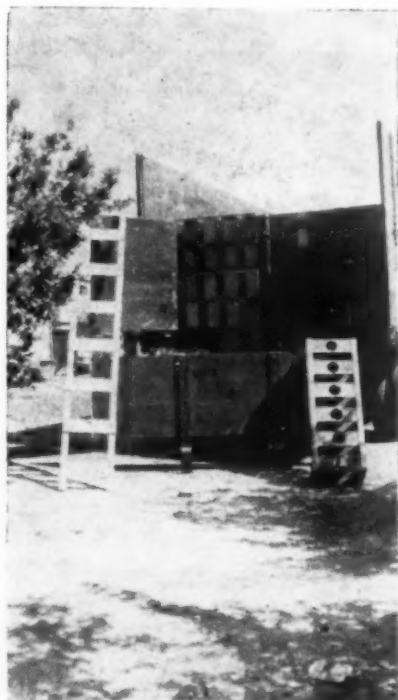
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DOWN SOUTH AND BACK

By HY. W. SANDERS

SIX years ago we made our first venture south with a truck to bring home our spring lot of package bees, and we lost most of the bees on the way home. We still argue sometimes as to just what caused the disaster. Everything was wrong. There was first a spell of hot weather, then



Ready for the bees. Note swinging end gates, ladder for trip, cages crated in sixes. Two crates fit width of truck.

suddenly it turned to a cold wind from the north which increased in intensity until, during the last ten hours of the trip through Minnesota, it was just terrible. We did not know enough to get into a warm place and feed the bees. Our canvas cover was none too good and the wind got underneath and ripped it in places. Anyway we arrived with a sorry-looking mess and had to order bees by express to replace it. Since then we have learned how to do the job better, and today we do not hesitate to go south for bees and we do not expect any loss, or only a trifling loss, on the trip. The following paragraphs and pictures tell of our shipment from Cameron, Texas, during the last week of April 1940.

The truck is a two-ton Ford and it ordinarily carries a grain box, 7

feet by 12, and 2 feet 10 inches in depth. At the rear end we have swinging doors for easy loading and unloading of bee equipment, and these are hinged to 2x10's placed on end and braced with irons to side and platform so that the whole box maintains its rigidity. The doors slide upwards on their hinges and have stakes that drop into sockets when closed, so that it is hardly possible for the doors to come open on the road.

We use the standard cage, 16 by 5 by 8 inches, and a No. 2 feed can. Six of these cages are crated to-



Loading crates of bees, under a spray of water.

gether, and two of these crates just fill 7 feet, the inside dimension across the truck. There is just room for nine crates from end to end, and we stack them six high. There are thus 108 packages in each tier, or a total of 648 in the load. It would be possible to go another tier higher and raise the load to 756, but we have never taken quite as many as this.

Before leaving home the cages are all overhauled and crated. There is a considerable saving in using cages for several seasons; in fact we figure that much of the cost of the trip is covered by this item. If a cage is worth 20 cents and by trucking we can use them four times, we are saving 15 cents on each one, or \$97.20 on the load. Against this should be charged the time spent in overhauling. It is a tedious job and must be done with great care for on truck trips there is a continual movement of the load and a projecting corner of a cage or crate-stick can easily make a little hole in the screen somewhere which will enable the bees to escape. However we have plenty of time to spare in the winter season and we carry the cages into our basement and give them a careful once-over before crating them. Those damaged are laid aside and if we need more than we have, we can make two good ones out of three poor ones. The cages are crated at this time, which saves a lot of time after the bees are shaken into them in the South, as well as enabling the load to be handled easily on and off the truck in the meantime.

Ventilation is provided by cutting two holes, each 4 by 6 inches in the



Ready to go. Hy. Sanders standing, Edward W. Sanders (son) on running board.

MARCH, 1941



Home of H. E. Graham, Cameron, Texas.

front end of the box, one on each side of the cab, and covering them with cotton cloth. The air pressure as the truck is driven forward sends enough fresh air through the cloth to keep the bees well ventilated clear to the bottom of the stack.

A light ladder is carried on the side of the truck and is a great convenience on the road for adjusting the canvas covers or watering the bees in case of hot weather.

Going south we "take it easy," sometimes detouring for visits. One such to Hamilton, Illinois, the previous year, provided us with delightful memories of the Amercian Bee Journal's personnel and the Dadant factory. Another time we drove through Arkansas and enjoyed the splendid scenery of the Ozarks. In 1940, however, we made no side trips, but just ambled along in time to arrive at Cameron, Texas, on April 15. That gave us a week to rest up and prepare for the big dash.

As in previous years we enjoyed the hospitality of H. E. Graham, whose fine old home is well over a hundred years old and dates back to the earliest settlement in central Texas. On an adjoining lot was his warehouse from which the bees are shipped. We are sorry to get word later in the season that Mr. Graham had lost this building by fire. Previous trips and a winter spent in Cameron had enabled us to get acquainted with neighbors and the town, and the days passed quickly. Our crates were unloaded and placed ready to go out to the bee yard; sugar was bought and dissolved and the feeder cans filled in readiness and we were ready for the queens. These, it may be mentioned, are the real problem in getting package bees on time.

First, however, a word about the feeders. For two years we have used a feeder can with two quarter-inch



H. E. Graham and his famous shaker. One on left, ready to use; one on right shows inside strainer of queen excluders. Young bees go through wires and cluster against screened panels. Drones, queens, and old bees remain in strainer or fly out.

holes punched in the lid, under which is a piece of cotton cloth. It is important to have exactly the right weave and we have found that the material known as "Indian Head" is about right. This was recommended to us by Mr. Haertel, of Citronelle Bee Company. The pin holes that are often used in cans for packages are all right for express shipments as the railroad cars run more smoothly than a truck. We found in previous years that the up-and-down movement of the truck "milked" the syrup out of the cans so that before we were on the road twelve hours it would be dripping off the rear of the truck. With these new-type feeders we do not think a drop of feed is wasted and we usually find a third or a quarter of the syrup unused at the end of the journey.

To get queens of the right quality by the thousand just at the right time is a problem well known to all south-

ern shippers. Bad weather at the critical time may upset the most careful calculations and cause serious delays. In taking bees far north, to Canada or the northwest states, it is essential that the colonies should get started in time and there is very little leeway for mistakes. A late shipment of bees will come to strength just too late for the best flow. It is difficult to get some southern beemen to believe that a week or two can be so critical, for with them time is hardly ever so decisive a factor. However the queen business has grown so big in recent years that we have not experienced any serious delays, and we can fix a day for loading as soon as enough queens have arrived. If weather is



Back north among the bare branches; sixty hours later and 1570 miles from the start, we shake the bees into their hives.

hot we feed the queens and their attendants by placing a tiny drop of liquid honey on the screen, then a tiny drop of water. This is done with a toothpick.

It takes about 36 hours to assemble the load. I have before described Graham's shaker (March 1939) which I believe to be one of the most useful inventions since package bees were first placed on sale. The inner box is made with queen excluders, sides and bottom, and the top is open. Combs are shaken into it, and queens and drones are caught by the excluders. Old bees fly up at once into the air and return to their hives, but the young bees, the ones we want, creep through the excluders and cluster inside the screened sides of the outer box. At intervals the inside box is lifted out and the young bees in their clusters are scooped out with a can which holds two pounds. They go directly into the cages, already crated as described, and the holes are closed with flaps of thin wood or cardboard.

Graham's bees are scattered over a lot of country, and so even though several crews are working it takes two working days to get a truckload. About noon on the second day the last stage of the operation begins. The crates of bees are upended in a tank and sugar syrup is poured through them. After draining surplus syrup the crates are taken out and each cage supplied with a queen and can of syrup. We do not attempt to use the system of loose queens which is advocated in some quarters because having only young bees, we have had practically 100 per cent success with queens in cages. These are hung by a wire in the center of the cage and soon the bees, gorged with syrup from the feeding, are clustered quietly around the queen. As fast as the crates are finished they go on to the truck.

We aim to get started at dusk, so as to get as far north as possible before the next day brings higher temperatures. As the load begins to accumulate there is danger from heat, so the bees already on the truck are sprinkled freely with water from time to time. As the afternoon draws on, the last crews come in from the yards with their bees, and these are fed and finished by the time we have had a meal and gathered our belongings together. By next morning, if we make usual progress we should be hundreds of miles north.

Up to about midnight on the first night we drive with the top of the load open, and if the weather should be warm we may continue thus for a longer time. However the canvas generally goes on before the first night is over. A thermometer on the end of a long stick is arranged so that it will stay in the center of the load, but can be withdrawn from the out-

side. The light ladder is useful for these inspections and if the temperature goes above 70 degrees we stop at a filling station and souse the bees with water from a hose. If, further north, the bees get cold and the temperature goes below 65 we find a warmed garage and wait a couple of hours until they get warmed up. In general it is surprising how steady it keeps in the load at about 70 degrees. The rapid motion of the truck through the air, with the ventilators in front of the box and what air gets through the double canvas cover, seem to keep the air inside just about right.

We carry three drivers and take four hour shifts. On open roads we aim to do 50, but are most careful through towns and cities. A mishap that would be of no account as such might cause a disastrous delay. Where we have to pass through states having ports of entry and special regulations, such as Oklahoma and Kansas, we usually first write to the proper authority and make sure that no delay will be probable. We only stop to eat and service the truck and do our sleeping in the seat. If the one who is driving feels sleepy it is the absolute rule that he make no attempt to continue but either turn the wheel over to one of the others, or get ten minutes' sleep by stopping at the side of the road.

When we get to southern Minnesota we send a wire ahead to begin getting out hives and our helper, assisted by some temporary workers, begins to prepare for our arrival. The stove in the extracting house is lit and a warm place thus provided for the bees on arrival. Sugar is dissolved for feeding, and hives containing six combs each are placed in rows in the yard. When we arrive we stop only for a bite to eat and begin immediately to shake the bees into their hives. In a previous article I have described this process. First the crates are fed through, as in Texas, then the bees are shaken out and the queen cage upended on the floor of the hive, leaning against the outer comb, a hole having been made through the candy. Then on goes the cover and the job is done.

Morris, Manitoba.

THE KILLION COMB HONEY SERIES

The ninth part of the Killion comb honey series, which, if published without interruption, would have been in this issue, is being held over to April. It deals with spring management and since April marks the beginning of the season the delay will not be serious.

NEW BOOK ON PLANT DISEASES

"Insect Transmission of Plant Diseases" is the title of a new book by Julian G. Leach, published by the McGraw Hill Book Co., of New York. This book is of unusual interest because it is the first in its field and makes available a vast amount of useful information concerning the spread of disease among plants.

It is useful to fruit growers and gardeners who are forced to contend with a variety of diseases which are commonly spread by insects. With an understanding of the habits of the insects and manner in which disease is carried, control is greatly simplified.

Of special interest to the beekeeper is a discussion of the relation of the honeybee to the spread of fireblight. Many years ago it was found that the blight organism may be carried by the bees which chance to visit infected blossoms. For a time it was assumed that the bee might be the principal agent for dissemination of this disease. Later investigations, however, indicate that the bee is only a chance agent since she is unlikely to visit the cankers in which the disease overwinters. Flies appear to be more often responsible for initial infections.

Most readers will be surprised at the great number of diseases which are spread by insects. We mention a few as examples such as blossom blight of red clover, hopper burn of potato, froghopper blight of sugar cane, heart rot of celery, Stewart's disease of corn, leaf spot of tobacco and spot disease of cauliflower. The list is a very long one and worthy of much attention on the part of every gardener. The book contains 615 pages, substantially bound, well illustrated and printed on enameled paper. The price is six dollars and it can be ordered direct from the publishers at the above address, or from this office.

MARY BARBER LOANED TO GOVERNMENT

Mary I. Barber, Home Economic Expert for the Kellogg Company of Battle Creek, Michigan has been loaned by that company to the U. S. government for the duration of the national emergency. She will serve the quartermaster general of the army in the preparation of adequate menus for the fighting forces.

Miss Barber and the Kellogg Company are well known to our readers, being champions of the food value of honey.



Aristaeus appeals to his mother, Cyrene, to restore his beloved bees.

ARISTAEUS, the Bee God or Honey Lord of the Greek and Roman mythology, was believed to

ABOUT THE COVER PICTURE

LEGEND OF ARISTAEUS

By DR. BODOG F. BECK

have been the first beekeeper. Ceres, the goddess of fruits and harvests, supposed to have instructed him in the mysteries of beekeeping. He was the son of Apollo, the Sun God, and of Cyrene, a water nymph.

In ancient times bees lived in a wild state. They built their nests in the cavities of rocks and hollow trees. Aristaeus, the Thesalian shepherd, managed to domesticate them and constructed straw hives to make them comfortable. Bee culture was his life's ambition and he became very devoted to those tiny creatures.

Beekeeping was favored by the gods and goddesses because celestial nectar and divine ambrosia, the drink and food of the Olympian deities, was made from honey. Hebe and

Ganymede were the cupbearers; they served the delicious drink. A fermented mixture of honey and water, nectar, had life-giving properties. It imparted divine bloom, beauty and vigor, preventing infirmity and old age. It tickled the palate of the gods. Honey and milk, called ambrosia, was their food.

The life of Aristaeus is closely linked to one of the most woeful tales of ancient mythologies. Orpheus, the half brother of Aristaeus, was the son of Apollo and the Muse, Calliope. He was presented with a lyre by his father and was taught to play so wonderfully that neither mortals nor inanimate objects could withstand the charms of his music. Wild beasts, rocks and trees were softened by his melodies. They crowded around him to hear the magic strains of his lyre.

Orpheus married Eurydice. They passionately loved each other. Soon after the wedding, while walking in



Aristaeus carries off the shackled Proteus.



The bees swarming from the carcasses of dead bulls.

the fields, Eurydice was bitten by a viper on her foot and died.

In his great sorrow Orpheus looked for his beautiful wife throughout the regions of the dead. Playing on the lyre, he passed through crowds of ghosts and at last presented himself before the throne of Pluto, ruler of the underworld.

Orpheus prayed, "I beseech you, god, to whom we must all submit sooner or later, to listen to my true words. All-powerful love has forced me to come here to redeem my beloved Eurydice. Give her back to me and let her fill her term of life. Afterwards she will be rightly yours again. I implore you, return Eurydice to me. I cannot exist without her. If I am denied, you shall triumph in the death of both of us."

While he appealed to Pluto and his wife, Proserpina, to restore his beloved bride, Orpheus played magic songs on his lyre. The ghosts were weeping. It is said that the eyes of the Furies were for the first time wet with tears. Pluto himself deeply touched, sent for Eurydice. Soon she appeared limping on her wounded foot.

Pluto thus addressed Orpheus, "I will permit you to take Eurydice with you. I am making only one stipulation. She will follow you but you must not turn back to look at her till you reach the upper regions."

They proceeded in silence through many long, dark and steep passages and almost reached their journey's end, the cheerful upper world. To be sure that she was following him, Orpheus, in a moment of forgetfulness, turned back to cast a glance at his beloved mate. He tried to embrace her but could only grasp the air. She was instantly borne away.

Orpheus tried his level best to return to Pluto's domains but was denied passage. Without food or drink, he lingered around the entrance to Hades for seven days, playing sad symphonies. Maidens tried to captivate him but he repulsed their advances. Orpheus soon died and Jupiter placed his lyre among the stars.

After death Orpheus was reunited with Eurydice. The two shades walked happily gazing at each other, without incurring penalty for a thoughtless glance.

Aristaeus, the shepherd, was the real cause of the misfortune which befell Orpheus and Eurydice. Soon after their wedding, Eurydice, accompanied by her nymphs, took a walk in the flowery fields. Aristaeus, attending his bees, curiously gazed at the group. Struck by the radiant beauty of Eurydice, he fell in love with her. Aristaeus tried to embrace her. To escape his attentions, Eurydice took flight. In running away, she stepped on a viper which

was hidden in the grass. Eurydice died from the wound.

The grief-stricken nymphs, to revenge Eurydice's death, ruthlessly destroyed Aristaeus' precious bees. Heartbroken and utterly prostrated by his misfortune, Aristaeus decided to appeal to his mother for aid. Wandering to the river bank, he prayed to Cyrene, "Oh mother, the pride of my life has been taken from me! I have lost all my beloved bees! Please help me to restore my pets!"

Cyrene sat in her palace at the bottom of the river. She was surrounded by her nymphs who were engaged in spinning, weaving and telling stories. Cyrene faintly heard the sad prayers and sent one of her nymphs to see who was there. The nymph stuck her head above the water and recognized the distressed Aristaeus. She reported to the goddess who ordered her to return immediately and escort her son into her presence.

The river opened at Cyrene's command. The waters curled up like solid rocks wherever Aristaeus passed. Reaching the river bottom, he heard the deafening roar of wells rushing in all directions over the surface of the earth.

Aristaeus arrived before the sea-goddess' throne. The tables were richly spread with all sorts of dainties. The nymphs regaled themselves with a sumptuous feast. Cyrene cheerfully received her son.

Kneeling before the throne, Aristaeus repeated his prayers. The mother bitterly reproached him for the mishap. "You well merited the severe punishment which Eurydice's nymphs meted out. You were the cause of Eurydice's death when she fled from you and trod upon the viper whose bite killed her." The afflicted son begged his mother's forgiveness and again implored her assistance.

Cyrene replied, "My son, I am unable to help you in your evil plight. I will give you but a sound piece of advice. There is an old prophet named Proteus who dwells in the sea. He is a great favorite of Neptune, his father. Proteus takes care of the Ocean god's herd of sea calves. We hold him in great respect because he is a learned sage and knows the past, present and things to come. He will be able to tell you how you can redeem your beloved bees. I warn you, though, that he will not do so willingly. You must use force to make him reveal the secret. Seize and chain him and he will then answer your questions just to be set free. Be careful because he is a mighty wizard. At will, he changes into a lion, a tiger, a dragon or a wild boar. There are plenty of other tricks he will resort to in trying to fool you. You cannot be careful enough."

Cyrene sprinkled her son with

fragrant nectar to fill his heart with courage and to lend him vigor. Odor of incense filled the air. "Come, I will take you myself to the prophet's cave."

A magnificent chariot made of a huge sea shell suddenly emerged from the water. It was drawn by two beautiful sea horses with brazen hoofs and golden manes. They slid over the waves and the sea became smooth wherever they traveled.

Midday was the time when old Proteus emerged from the water with his sea calves. He used to count first his herd and then stretch out on the ground to enjoy a noontime repose. Proteus was sound asleep when Aristaeus arrived. He quickly fastened the fetters on the old man and carried him to his cave. When Proteus awoke and found himself captured he fell into a terrible rage. He loudly shrieked. Resorting to all kinds of weird tricks, he first became fire, next flood, then a horrible wild beast. It was, however, all useless—because he was very tightly shackled. Finally he resumed his own form and addressed Aristaeus, "Who are you, bold youth? How dare you invade my abode? What do you want from me?"

Aristaeus replied, "It is needless to try and deceive you. You know the cause of my misfortune. Tell me first how I can recover my precious bees and then I will free you."

Proteus also realized that telling the truth was his only salvation. Thus he spoke, "Before all, to appease the anger of the nymphs for your infamous act and do funeral honors to the shades of Orpheus and Eurydice, erect four altars. Select four bulls of beauteous form and as many heifers whose necks were yet untouched by yoke. Sacrifice these animals on the altars. After their throats have emitted the sacred blood, leave their bodies in a leafy grove. Return in nine days and see what will befall."

Aristaeus faithfully obeyed the instructions and left the slain cattle in the grove. Nine days later he returned and, wonderful to relate, found swarms of bees in immense clouds pouring forth from the bodies of the cattle, settling in huge clusters on the bending boughs of trees.

The joy of Aristaeus cannot be described. He resumed his beekeeping as in former happy days.

New York, N. Y.

OUR EDITORIAL CONTEST

MARCH CONTESTANTS

The winner, Glenn O. Jones, is a resident of Atlantic, Iowa and one of those who has been most interested as a beekeeper in the development of the disease resistant bee. He is in the postal service and also a sideline beekeeper, one of those we like to talk about, who has a splendid layout with fine equipment and with serious interest in his avocation. To him go the six selected queens of the best strain of the new disease resistant stock.

Runners up are Leslie W. Franks, Harvey, Illinois for second place; Edward D. Wirth, Brooklyn, New York, third place; A. J. Bissinger, Prescott, Iowa, fourth place.

Other contestants were Newton Beadle, Jamestown, New York; L. R. Romine, Ossian, Indiana; Paul Hobart, Roscoe, Illinois; Richard H. N. Yost, Tacoma, Washington; P. L. Conaway, Dillsboro, Indiana; W. E. Bumgarner, Marshfield, Missouri; John Bruce, Chesterfield, Illinois; Paul Christopel, Goshen, Indiana; Stauton Smith, Lebanon, Ohio; James Calvert, Reaboro, Ontario; Mrs. E. Claussen, Oregon, Illinois; Stanley Benson, Loda, Illinois; Lynn M. Aldrich, Pickford, Michigan; Dr. Frank Shaw, Amherst, Massachusetts; Donald J. Dinnick, Orangeville, Ontario; Louis F. Reisinger, Decatur, Illinois; Mrs. Leonard Thrall, Worthington, Minnesota; A. W. Burnham, Orrich, Missouri; Paul Kalthoff, Dover, Missouri; F. L. Boynton, Elizabeth, Louisiana; C. H. Huey, Waycross, Georgia; A. A. Lyons, Loveland, Colorado; W. A. Driver, Yankton, South Dakota; George Rehman, North Baltimore, Ohio; Ned F. Dressel, Metaline Falls, Washington; Gibson Smith, East Aurora, New York; Arnold H. Deuel, Holcombe, Missouri.

The Jones' editorial, the first winner, is on page 105 in honor position. The three runners up follow on this page.

Now let's try again. For the best editorial for April, we will give the following books: "The Golden Throng," by Edwin W. Teale, "The Sacred Bee," by Hilda M. Ransom, "Honey and Health," by Dr. Bodog F. Beck, and "The History of American Beekeeping," by Frank C. Pellett. These books ought to be worth the trial. They are new and very interesting, some of the material actually vital to a beekeeper. To each of the three runners up, we will send also a

copy of Dr. Beck's important book, "Honey and Health."

(If you think you have a chance and wish any other book, publication, or subscription extension equal to the value of the award offered here, be sure to state so in your contest presentation.)

Many try to write editorials. There is a difference. An editorial concerns something vital to the industry and contributes to leadership. It is not a discussion of management or equipment or experience. Don't be afraid to try, whether you can write or not. If your ideas are worth while, we can put them in readable form. Send your material any time in the month of March. If too late for the April pages, they will fall into the editorials submitted for the May issue.

Second Editorial

IMPROVEMENT IS OUR RESPONSIBILITY

By Leslie W. Franks

In thirty years of engineering and accounting practice I have failed to find a single industry that has not had the plaint of the beekeeper that costs are too high and prices too low.

The automotive industry has been beset by seemingly impossible demands of the public, by increased wages, by higher costs for materials. Yet they end each year by giving new refinements in cars before the public can think of them at a price lower each year solely because of increased demand. Everything from refrigerators to baby buggies is being made cheaper than before.

Along comes the beekeeper using only a minimum of investment and according to his own statements receiving a high yield on it compared with any other agricultural or industrial undertaking, with an occupation that does not require daily routine the year through as other business does, and yet he is unable to produce a satisfactory average return and he is not willing to cooperate with other beekeepers to accomplish that end.

Year after year we have followed the phantom of good yields. Good yields are the results of thought and study of planning and sound methods. There is a sufficiently sound back-

ground already established for beekeeping on which to base a profitable and interesting enterprise. Many beekeepers with years of toil behind them have failed to benefit greatly from the information available to him.

One year I visited over fifty bee yards of all descriptions. Less than five per cent of these beekeepers whom I visited have the basic knowledge of a novice and yet there are dozens of bee books and half a hundred government, state or professional booklets in the industry. Less than ten per cent had read thoroughly any one particular treatise. The majority preferred to inbreed for years, or to replace losses in the easiest possible way.

No unkempt facilities of this sort will produce what a well-managed plant will do. In other business, the owner fails and turns to something else, but beekeepers keep on forever.

Beekeepers are not overly good salesmen, so they have to pay for the distribution of their product. I have gone into stores, hoping to find honey without asking for it. Rows and rows of other foods are put up in attractive packages and have a fair turnover, and perhaps some honey stands off in a corner for those who want it enough to ask for it. Central displays are rare and even the store clerks know little about the honey except that it is in the store.

When the beekeeper spends as much thought on his product as does the manufacturer of hundreds of other food products, he will have the demand for honey and with it a price so that costs will be of less importance to him.

Just as with other food products, the price of honey is the public's measure of a service rendered. The standardization of hives has been accomplished, but colonies vary to the utmost in time and size, with the result that yields and quality suffer. Market methods do not attract the public eye and so the golden shekels go for other products. There is honey "in them thar hills" but the beekeeper gets little of it.

Worst of all for our future, our young modern students of agriculture learning only of the poor records and low average yields and profits in beekeeping turn their attention to hybrid corn, pure blooded cattle and enterprises that entail a great deal more work, a much greater investment and an equally speculative market. Paradoxically, these undertakings are much easier to finance. Find the banker that will listen to a beekeeper!

Harvey, Illinois.

Third Editorial

LET'S LOOK INSIDE

By Edward D. Wirth

Wherever one goes, sooner or later the discussion turns to prices. This is not peculiar to beekeepers, but is common when producers of any sort gather together. No matter to what doctrine we may lead, those who achieve the most happiness are the ones who fight for what is due them. The man or woman leading the crowd does so because he or she has the courage to try to get what they want.

One of the best things ever done for the industry is the establishment of the present \$20,000 advertising fund. Yet how many think that they can kick in with a few dollars and sit back to wait for a flood of orders. The best this advertising can do is to whittle away a little of the public resistance, and, until the beekeeper gets up on his own hind legs and lets the world know what he has to sell, it will be a long time before the certain success will be apparent.

Many think the best thing for the beekeeper is selling honey at a fantastic price. This is not so. The future of beekeeping as a business is in getting the little men to use honey. That means selling at a fair price, not a low price, not a high price—just a fair price.

What is a fair price? It is one that gives a hard working and intelligent man a living and a little more. The bigger the margin between the cost of production and the selling price, the more inefficient, careless men will be brought into the industry. The smaller the margin the faster the inefficient will drop out, thus leaving only those who have the brains, will power and determination to face their problem and lick it.

I make my living in the metal stamping business. Beekeeping is a hobby. I give away as much honey as I sell, but the honey I sell is sold at good prices because it is worth it. In our metal business we have a fair sized establishment, with its attendant costs and overhead. We are up against the cheap competition and the big fellows who can undersell us on quantity, but we go along strong because we can beat the chiselers on quality and the big ones on service or an intelligent personal handling of medium sized orders.

When the time comes that we consistently lose business because our prices covering the cost of production and a reasonable profit are too high, we won't get out our crying towels and weep all over the neighborhood about how bad the world treats us.

We will look into our own factory and find the reason, and that reason invariably is that our methods are wrong.

Prescribing a cure for every beekeeper's trouble is silly. There is no single cure. A thousand interlocking facts, events and circumstances make each problem different. The fundamental cure for each and every beekeeper who thinks the world is against him is to search his own soul for the answer.

And although time and again the answer seems to be some external condition, diligent search will eventually show that it is the beekeeper, his mental attitude, his methods, his will to sacrifice to get what he wants, that is responsible for his failure and for his pursuit of happiness in the occupation of keeping bees.

Brooklyn, New York.

Fourth Editorial

PROMOTING BEE PASTURE

By A. J. Bissinger

Recent editorials and agitation among beekeepers indicate the need of the promotion of bee pasturage because of frequent droughts and changing agricultural programs. Reports from various states have many regrets like "The honeyflow was cut short from this or that plant and we have nothing here to take its place," a semi-tragedy oft-recurring, and with little apparent attempt to overcome it.

We venture the assertion that sugar producers give more attention to better cane and beet stocks than honey producers give to better bee pasture. Fruit growers, to be successful, must have apples ripening from June to October. Beekeepers need to do something of the same sort to succeed.

Those most interested ought to take the lead. If the leaders do not lead, there will be no following. All the bee journals should be active in the presentation of nectar plant promotion. Those who take the lead in this should extend an invitation to all readers to undertake honey plant try-outs with one or several new honey plants, or experiments with existing honey plants. The results should be reported and followed.

Editors should give articles, descriptions, characteristics, range of growth, planting and harvesting culture of the best known new honey plants, including particularly the time and length of blooming period,

and sources of seed. Eventually an inexpensive handbook containing the accumulated facts about new plants might be published with descriptions and material which is authoritative.

Most commercial beekeepers see the large advantage of promoting the growth of plants that furnish pasture for live stock as well as nectar for his bees, such as sainfoin and birds-foot trefoil, but the minor plants also deserve recognition. H. A. Terry was no careless observer; when he stated that in his opinion an acre of anise hyssop well established would be ample pasture for one hundred colonies, it demanded attention. (A. B. J., December).

But are we who get meager crops giving that attention? Instead of weeds growing in the back lot or waste place, why not try any choice honey plant whether or not it is good pasture for live stock. Many sideline beekeeper would probably try some such plants if they had dependable leadership for their efforts.

A page or two in each issue of our magazine which might be devoted to the promotion of better bee pasture might include news items, reports of try-outs, questions and answers, articles from botanists, and this continuous leadership would help honey plants to a place comparable to the emphasis now given to hybrid corn by the farmer.

The subject of honey plant promotion should be given more attention in conventions also, but above all, let our readers urge promotional leadership in this field. Let each reader give suggestions which he may have or ask any question he may want, and we will soon have an established venture to protect our future.

Prescott, Iowa.

HOW ABOUT IT?

Your February issue on honey for infant feeding appeals to me to the extent that I would like to present a marked copy to each of our local and neighboring physicians. Please send me duplicates for that purpose. I will see that each one comes to the doctor's attention. I suggest that you ask each subscriber to bring this information to notice in his own vicinity.

Ira Lubbers,
Cedar Grove, Wis.

(Well that would be a large order if every reader would do what you suggest, Mr. Lubbers, but we will do this—we will make reprints of the material you mention and offer them to subscribers at the cost of production, if there are enough interested. What do you say?—Ed.)



Arthur Thayer (front right) and sons.

ARTHUR THAYER

We have just learned of the death of Mr. Arthur Thayer, of Freeland, Michigan, which occurred on January 10th.

The writer, in company with Mr. Woodman, had the pleasure of visiting the Thayer home and apiaries in the summer of 1940.

Mr. Thayer's health at that time was not very good. However, the management of the apiary has been in the hands of his two active and able sons who were in the midst of extracting at the time we were there.

We enjoyed an extremely pleasant

hour with Mr. Thayer, visiting his honey house and apiaries, and walking in the field observing some plantings of both red clover and sweet clover which he in connection with another son who was running his farm, were making experimentally.

Mr. Thayer has always been a prominent Michigan beekeeper and took an active part in bee meetings and the sympathy of the entire group from Michigan, as well as those outside, who have met him, is extended.

M. G. Dadant.

N. S. KRISTENSEN



N. S. Kristensen, former editor of the Danish bee paper "Tidsskrift for Bavl" passed away, June 9, at the age of 88. On December 31, 1936 he resigned from the editorial position he had held for thirty-five years, during which time his paper had grown from 1801 to more than 15,000. His last years he spent writing a history of Danish beekeeping, which it seems he was able to complete.

J. Skovbo,
Hermiston, Oregon.

JAMES GWIN NEW WISCONSIN INSPECTOR

The Wisconsin Department of Agriculture has made a consolidation of its bee and honey activities, which will have far reaching effect on beekeeping in Wisconsin. All beekeeping activities, including marketing, grading, and bee disease control, have been placed under James Gwin, who will be the chief of the new bee and honey section of the administrative division. By virtue of this office, Gwin will be Wisconsin's State Bee Inspector.

Mr. Gwin's acquaintance is not confined to Wisconsin only. He served the State Beekeepers' Association of that state five years. He was a member of the executive board of the American Honey Producers League four years and was its president three years.

HARMON STEVENS

We repeat here a portion of a picture used on page 26 in our January issue of Harmon Stevens, of Wisconsin. His son, Douglas J. Stevens, has written us of his father's death at the age of 90 years, 3 months and 20 days. He had been ill for several

months. Harmon Stevens' father was one of the first bee hunters to come to Wisconsin. Harmon followed his



Harmon Stevens

father's footsteps hunting bee trees and keeping bees. He was well versed in bee culture.

He is survived by two sons, Harold, of Litchfield, Minnesota; and Douglas of Stockbridge; one daughter, Mrs. F. E. Warren, Cascade, Wisconsin; two brothers, John, of Rio Linda, California and Andrew of Stockbridge; and one sister Miss Orrie, of Stockbridge.



James Gwin, right, new Wisconsin Inspector and C. D. Adams, left retiring Inspector.



FATHER FRANCIS JAGER

"While for us the light still shines and the darkness lingers, we will remember them upon whom Eternal light falls."

ANOTHER prominent figure in American bee culture has been removed. Rev. Francis Jager, for many years head of the Department of Bee Culture of the University of Minnesota and one of the nation's best known beemen, died at Alexandria, La., Jan. 30, after a brief illness. Father Jager made his home at Mound, Minnesota, where he was pastor of Our Lady of the Lake Catholic Church. For some years he has spent the winter months in Louisiana where he had an apiary from which he supplied bees and queens for his 300 colonies kept in Minnesota. He was taken ill on the

day of his arrival in Alexandria and died three weeks later. He was buried in the parish cemetery at St. Bonifacius, Minnesota, where he established the church in 1909 and where he served until transferred to Mound in 1920.

Father Jager was a unique figure and had long been popular in beekeeping circles. During the first World War he served in the Balkans as an interpreter for the Red Cross and as a chaplain in the Serbian army and was later assigned to the United States relief commission. At that time he formed a friendship with King Alexander of Yugoslavia who

was then prince regent and in command of the Serbian army. The king gave Father Jager the decoration of the Order of Sava in recognition of his war service.

When the Division of Bee Culture was established at the University of Minnesota, Father Jager was invited to take charge and through his official connection there he became well known to honey producers generally. He was a magnetic speaker and the star attraction on many a convention program. On one occasion when the convention of the National Beekeepers Association was on the point of breaking up in disorder,



Left to right, Father Jager, James Thompson, Jay Smith, Frank Pellett, John M. Davis, and M. C. Berry, at the Pellett home in Hamilton.



The Jager honey house at St. Bonifacius, with living quarters in the upper story.

because of disagreement between some of the officers, Father Jager was able to quiet the disturbance so effectively that probably only a small part of those in attendance ever realized what was happening.

Beekeepers were royally entertained at his quarters over the honey house at St. Bonifacius where he lived for many years. There he had an extensive beekeeping library and it was a delightful experience to be his guest. His apiary was one of the beauty spots of a region of unusual out-of-door attractions. His honey house was equipped with every up-to-date laborsaving device and his cellar for wintering his bees was among the best. Visitors came from far and near to learn from him and always was the journey worth while.

Passionately fond of bees and

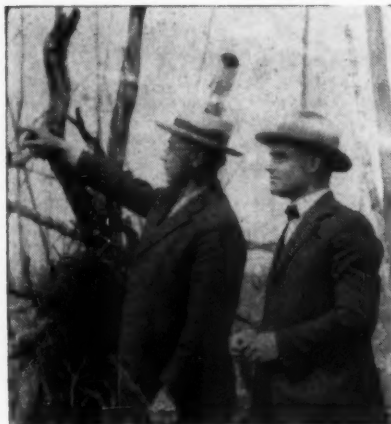
familiar with the languages of Central Europe he read endlessly the literature of beekeeping. Unfortunately Father Jager wrote but little for publication. The craft might have been greatly enriched had he passed on the vast store of information which he was able to accumulate.

The writer was privileged to make several journeys with Father Jager and whether we visited the apiaries of the beemen that we passed, camped under the trees at night or tramped the woods by day there was never a dull moment. He had a vast fund of interesting experiences on which to draw, a keen sense of humor and great love for the outdoors. Especially did he admire fine trees and, as would be expected of such a man, he surrounded his home with them.



Father Jager watching the bees in the University Apiary at St. Paul.

Father Jager and his assistant, James Thompson, in the burned over area following a forest fire in northern Minnesota.



There will be a sense of personal loss on the part of many who read these lines. Some came to know him as a speaker at conventions of beemen, some admired his work as a judge at the midwest Horticultural Exposition or at some of the state fairs and others as a teacher in a great university. Those of us who were privileged to know him intimately realize that a great figure has gone from among us and that we will not see his like again. It was very fitting that the American Honey Producers League elected him to honorary life membership at the last convention at Omaha last October.

1940 CANADIAN HONEY CROP

According to a bulletin just released by the Dominion Bureau of Statistics of the Dominion of Canada the honey production for the 1940 year for the entire Dominion was 22,633,400 pounds which is considered a short crop inasmuch as a ten year average is 26,613,600 pounds.

Last year's crop was slightly over 29 million pounds.

The chief loss occurred in Quebec, Ontario and Manitoba following closely. British Columbia and some of the maritime provinces made a slight gain in production over 1939.

The report states that by the end of November seventy-five per cent of the 1940 crop in the maritime provinces has been disposed of and a large proportion of the Ontario and Manitoba crops were also sold.

They report an extremely strong honey market with prices advanced from one to two cents over the same period in 1939. A suggestion is made in one paragraph of the report that the United States situation appears improved and a strengthening market is apparent.

ROTENONE FOR DUSTING

Rotenone is used extensively in spraying for the pea aphid in Wisconsin. Danger to bees is limited to such dust or spray as may light on the body of the bee. All danger is gone within three or four days after spraying.

Alfalfa leaf hopper may be largely controlled by cutting the first crop of alfalfa later, so that the first crop will have all of the eggs of the hopper. Thus, later cuttings will be close to free.

H. J. Rhamlow,
(Wisconsin Meetings.)

DIVIDING OVERWINTERED COLONIES FOR INCREASED HONEY PRODUCTION

By ED. BRAUN

EXPERIENCED beekeepers, when examining overwintered colonies in the spring, generally classify the strength of the colony in bees as strong, medium or weak. The value of these designations varies according to the beekeeper's own conception of the terms. A strong colony may have ten or more frames, a medium one from four to ten frames, and a weak colony may have less than four frames covered with bees. The strength of a colony, in spring, frequently determines the rate at which a colony will build up for the honeyflow and also the surplus honey or crop which will eventually be produced. The presence of a queen, her age, her egg laying capacity, stores of honey and pollen, as well as other factors within the hive during early spring, also exert a direct or indirect influence upon the future history of the colony. A normal, queenright colony, containing ample stores, with sufficient bees as a working force, will generally develop into a good honey producing unit when efficiently handled. Weak overwintered colonies do not find favor with the beekeeper; consequently, such colonies are united with medium or strong colonies because even under the most capable management they will not yield sufficient returns for the amount of care involved. If, however, increase is desired and new queens are available, these weak colonies make admirable material for splitting into nuclei later in the season. Medium strength colonies have a sufficiently large working force of bees to guard their hives against robber bees, to protect the developing brood from being chilled during cold nights, and to conduct all the other routine duties necessary for the normal development of the colonies. Medium strength colonies generally develop at a rate which provides an efficient number of field bees at the beginning of the honeyflow. Strong overwintered colonies, although they signify successful wintering methods and capable management usually cause the commercial beekeeper a considerable amount of anxiety. Strong colonies build up very rapidly, consume large amounts of stores (honey and pollen) daily, and too often prey upon weaker colonies, particularly in the spring or during a slack period of nectar secretion,

especially if any of their number is successful in obtaining a load of stolen sweets from any source outside its own hive. The rapid development of strong colonies also tends to encourage the development of the swarming fever, which will be dealt with more fully under another heading.

The following chart, prepared from figures obtained from colonies operated at the Dominion Experimental Farm apiary, Brandon, Manitoba, in 1938, demonstrates the approximate population curve throughout the summer for a weak, medium, and strong colony. Since bees during cool weather cluster close together and tend to spread out during warm weather, and are widely separated on the combs during the honeyflow, an arbitrary figure of four thousand (4000) bees per comb was used as a comparative index for determining the population curves. A careful estimate of the number of combs covered by bees at each examination in every colony has been routine work in the experimental apiary over a period of seventeen years.

clover nectar flow, the medium strength colony reached a point at which the mortality rate of field bees was nearly equal to the number of emerging bees. The next two week period shows a rapid increase in colony population. The weak colony shows a similar tendency as the medium colony but at an earlier date.

The spread in population strength between the strong and medium colony on July 15 is not as large as the spread between the medium and weak colony on the same date. Yield records indicate that colonies of medium strength in early spring, on the average, produce as high a yield of surplus honey as the strong colonies. This would indicate that there may be some point in the population curve where additional individuals impede rather than increase nectar storage or the normal activities of the colony.

Swarm Control

Strong overwintered colonies frequently make preparations for or actually cast a swarm during the month of May or June depending

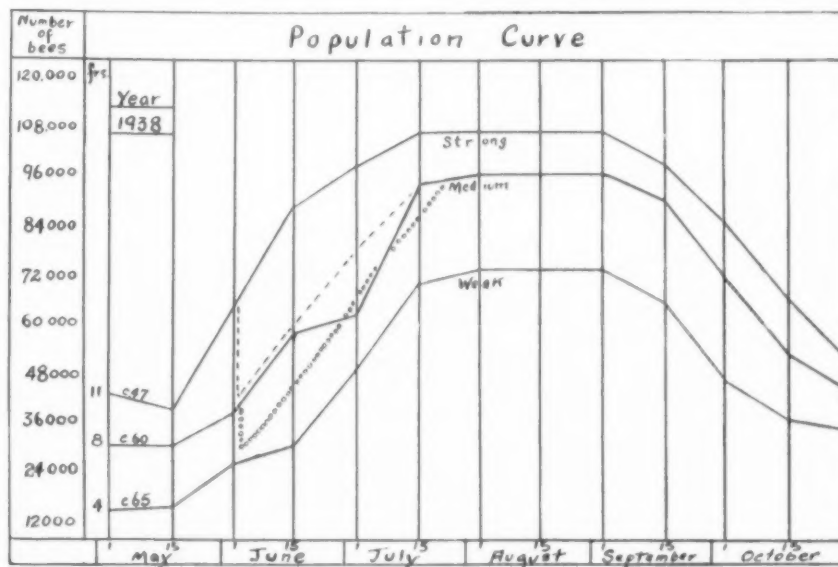


Chart I.

The chart shows the relative strength of the three colonies on the first and fifteenth of each month. On June 15, at the end of the fruit bloom period and a week or ten days prior to the start of the yellow sweet

upon weather conditions and the intensity of the honeyflow from dandelion and fruit bloom. The issuing of a swarm disrupts the normal development within the colony, even though the swarm is captured and returned to the parent

hive. If the swarm leaves, unobserved by the beekeeper, and is lost as a productive unit, the yield of surplus honey from a strong colony is reduced by at least half of the yield that would have been produced had the colony not swarmed. The amount of labor involved to prevent strong colonies from swarming frequently requires all the resources available to the beekeeper, taking valuable hours of time which could be spent to better advantage at other beekeeping work. Dividing strong colonies in May or early June, preferably six weeks prior to the start of the main honeyflow, will reduce strong colonies into the category of medium strength colonies, and at the same time double the number of producing units. Medium strength colonies, in early spring, rarely make preparations to swarm if capably handled. Therefore, dividing strong colonies early in the season, acts as a preventative measure for swarming and may be termed a means of swarm control. Experimental results indicate that the surplus produced by strong colonies divided in the spring is nearly twice as much as from strong colonies left undivided but which did not swarm throughout the season.

Overwinter Only Strong Colonies

In the fall beekeepers are generally rushed for time to properly prepare their colonies for winter. Colonies with high production records, as well as those with indifferent production records, are provided their requirements for winter and stored in beecellars or in specially prepared outside-wintering cases. The inclusion of all production units—good, bad, or indifferent—for overwintering, has, in a large measure, contributed to the high annual losses of past years particularly in the colder regions of Canada. Careful selection of the high producing colonies combined with systematic requeening from desirable stock will soon eliminate all poor or indifferent producing colonies, thus reducing costs by providing more time for more colonies, and increasing the percentage of colonies successfully wintered. If the beekeeper has to reduce the number of his colonies by uniting in the fall in order to get strength of colony, he increases his chances of bringing through more living colonies, thus no hardship is imposed on the beekeeper who wishes to expand his apiary or who desires to keep his beekeeping equipment functioning to full capacity, for he can make at least one division from each strong colony in the spring. For example, a beekeeper operating one hundred colonies could select seventy colonies to be overwintered. Should ten succumb during winter, there would still be sixty colonies alive and, with forty of these strong enough in spring for one division each, the bee-

keeper would still have one hundred producing units for the coming season, at the only expense of purchasing forty queens to head the new divisions plus the labor involved. Concentration on the problem of producing strong overwintered colonies will pay ample dividends in increased honey production, if such colonies are divided and handled in the proper manner.

Reducing the Monetary Expenditure Outlay

A reduction in the number of colonies to be wintered may reduce the monetary outlay for wintering; such as, the size of the bee cellar, the number of packing cases required, etc. The handling of a smaller number of colonies in the fall and spring reduces the amount of labor required. The smaller the number of colonies which are to be overwintered, the less honey required to be saved for winter feed, consequently, the beekeeper would be able to dispose of a larger percentage of his marketable honey crop. Although package bees serve many a useful purpose for the northern beekeeper, a considerable amount of the money annually expended for package bees could be saved if northern beekeepers would adopt the policy of overwintering their best colonies and making divisions in the spring. It must be pointed out, however, that this policy is suitable only in regions where the major honeyflow is long and extends well into late summer or early fall.

How to Divide Colonies and Precautions to be Observed

Colonies covering six or more frames with bees, during the first two weeks of May, (in the prairie provinces) can be divided without injuring the productive capacity of the parent colony, providing the parent colony contains a good laying queen, producing worker bees, and that weather conditions and food supplies have been favorable to the normal development of the colony. In a normal season, a colony of the above mentioned strength generally contains two or more frames filled with capped or sealed brood and two or more frames filled with uncapped or unsealed brood before May 15. The estimated number of untested mated queens required for the number of divisions to be made should be ordered from southern shippers to arrive during the first two weeks of May. On the date the queens arrive, or as soon as possible thereafter, the divisions may be made according to the following plan:

The hives, for the divisions, may be prepared before the queens arrive. Each brood chamber should contain one full frame of honey, one full frame of pollen, and eight drawn

comb. The honey and pollen stores may have been saved from the previous year's crop for this purpose or, in event that no provision had been previously made or contemplated, they may be secured from the colony to be divided. However, care should be exercised that sufficient honey and pollen is left with the parent colony so as not to interfere with its normal development. If no honey or pollen may be spared from the colony to be divided, the division may be fed sugar syrup. Foundation may be substituted for the drawn comb but this retards both the development of the parent colony and the division, particularly during the early spring season. The new brood chambers, having been prepared with combs and feed, are supplied with a bottom board and hive cover, and placed alongside of the colony to be divided. A wire screen, four inches wide and long enough to close the hive entrance securely, is bent into a V shape and inserted into the entrance of the new nucleus hive. The queen is located in the parent colony, and the frame she is working on is placed outside of the hive, if the weather is warm enough to prevent chilling, or inside the hive, if the weather is cool, in such a manner that she cannot run over to the combs which will be transferred to the nucleus. Two or more combs of capped brood, preferably emerging brood, with adhering bees, may be transferred into the nucleus from the parent colony and additional frames, with young bees, may be shaken from the combs to provide sufficient bees to cover the transferred brood and prevent it from being chilled. The frames containing brood in the parent colony are placed together and after ascertaining that the queen is in the parent hive, the number of frames removed to the nucleus are replaced with drawn brood combs from the nucleus hive, and the parent hive closed. The new queen in the travelling queen cage, after poking a hole through the candy with a nail, is suspended with frame wire between the frames of emerging brood in the nucleus. It is a good plan to destroy or remove the attendant bees from this cage before introducing the queen. A more rapid and successful introduction is accomplished by transferring the queen from the travelling cage and introducing her in a dry queen cage, without attendants, placing a small pellet of candy in the opening of this cage. Sufficient space must be allowed between the queen cage and the adjoining frame so that the bees in the nucleus can feed the queen through the wire screen of the cage. Push-in-queen cages may also be utilized to advantage for the introduction of queens to the nuclei. The nucleus is next moved to its permanent stand and the entrance left

(Please turn to page 131)

THE CARNIOLAN BEE

Last month a summary was given of the most important opinion of the Italian honeybee since its importation into the United States. In contrast to that, the summary for this month is about the Carniolan bee, one of the two gray races. Next month the summary will be about the Caucasian bee. Readers should then know the main characters and habits of the three races of bees that still remain of major value in honey production. (Photo by G. A. Pauli, Pueblo, Colorado.)



MARCH, 1941

H. F. SHANNON,
Gleanings In Bee Culture,
December, 1885

I have raised over 100 Carniolan queens this fall, and find more yellow in the race than I expected, though some queens, whose bees show considerable yellow at first, raise very nice bees when six months or a year old, as their yellow mostly proves to be a reddish band. I find there are some Carniolans that resemble the cross between them and Italians. The yellow is in the drones as well as the workers, and in imported stocks as well as home-bred queens. The first queen I sent you was raised from an extra imported queen; but if she is mated pure it must have been with one of those yellow drones, and those yellow drones you will find to be all through the race; but some queens raise much finer looking ones, and of a more uniform color, than others....

The Carniolans are very hardy, and are the best comb-builders I ever had, and make the nicest section honey. They protect their hives as well as Italians, as far as I am able to judge. I have some Carniolan swarms that built more comb in August and September than the best Italian stands did in the honey season. They also work on red clover as well, if not better, than Italians. But you will find them to swarm more, and some queens raise very poorly marked bees. In raising queens I have much better results after going over my bees the second time, and excluding all queens and drones that had many yellow ones among them. In breeding them I would buy some drones from darkest queens, if they are uniform in color, and also breed from darkest queens. The thing we want is a black underground, or scales, with heavy stripes of down on workers; and queens that raise these without yellow ones among them are hard to get, but they are as fine-looking bees as the best Italians. It takes the very best queens of this race to have good results in raising them; and even then some are not fit to send, as folks will call them hybrids, even though they are pure.

ROBERT SPROULE,
Gleanings In Bee Culture,
March, 1886

MY opinion of the Carniolans is, that they are the best bees we have. The queens are conspicuous, the bees are gentle, and good honey-gatherers, and they are very hardy.

I think them quite as handsome as the Italians, Cyprians, or Syrians, none of which are good honey-gatherers in this country. (Ireland).

To show the industry of the Carniolans, I may mention that I sometimes feed my stocks by placing a supply of syrup outdoors at some little distance from the hives. The Carniolans are the first to find it out, and have every drop taken away before the blacks begin flying for the day.

Although the Carniolans do not stay on the combs as well as the Italians, they are much more easily handled than the blacks. The crosses, first, second, and third, with blacks, are almost as gentle as the full bloods, which is a consideration when introducing new blood into an apiary.

S. W. MORRISON, M. D.,
American Bee Journal,
November, 1888

FOR the introduction of Carniolan bees into this country, Mr. Benton deserves the gratitude of all bee-keepers.... The most notable new trait about them is their freedom from the disposition to "rob," or their vigilance in guarding their hives. With 200 nuclei colonies, daily exposure of their combs, and a poor honey season, it is remarkable that I have not had a single colony robbed. Such freedom from robbing never happened to me when I had Italians.

I am convinced that Carniolans are better honey gatherers than Italians, Cyprians or Syrians; and as for gentleness, I have little use for smokers, and many colonies can be handled with the same impunity as if they were so many flies.

F. A. LOCKHART,
American Bee Journal,
January, 1889

I commenced the season of 1888 with 25 colonies, 20 of which were Carniolans, and 5 Italians, and I increased them to 30 colonies. The season was the poorest one since I have kept bees. I got only one-eighth of a honey crop.

The Carniolans were the only colonies that gave me any surplus. I had them side by side with the Italians, and I gave the one variety as much attention as the other, but the Italian colonies would not enter the surplus receptacles, and I could not get them to do so with any amount of coaxing.

They were strong in bees, and filled their brood-chambers full of honey; but that is all they would do. The Carniolans filled their brood-chambers and gave quite a surplus besides. I never saw bees cap their honey so rapidly, and with such snowy whiteness as the Carniolans do.

Some may think that I had a poor strain of Italians. If I had, they were from the progeny of 3 queens from our best queen-breeders. I used to think that there were no bees like the Italians, but I have discovered my mistake, and have discarded them.

I have never seen any strain of bees that had so many good points as the Carniolans possess, all things being considered. They have a little more propensity to swarm, than have the Italians; but why do they have a tendency to swarm oftener than the Italians? Because they are more prolific than either the blacks or Italians, and for that reason they need to be managed in a different way. Give them plenty of room, and they will make use of it.

My plan for working the Carniolans is as follows: Hive the swarm with the old queen on the stand from whence they came; place the old hive in a new location, and give the colony that is left a young laying queen. Cut out all queen-cells before giving the queen, and cage her at least for 24 hours. If you have no young laying queen at hand, cut out all but one queen-cell, and let them rear a queen.

PROF. A. J. COOK,
American Bee Journal,
September, 1889

.... I have long had a desire to know more of the Carniolan bee. Its reputation for amiability, activity and vigor, and especially its ability to withstand cold weather, seem to give it superior excellence; indeed, so far as I know, there is only one disadvantage to this bee, and that is the tendency to over-swarming. As over-swarming results either from overcrowding of the hive or some discomfort within the hive, it may, in the hands of the wise beekeeper, be no serious objection. If the Carniolan is so prolific that it speedily fills the hive with bees, and thus leads to swarming, surely that would be a recommendation. If lack of shade and overheating leads the bees to leave the hive, then that objection could easily be remedied.

It was my pleasure, during the latter part of last July, to be in the East, and an exceeding pleasure to visit the apiary of Frank Benton. I there saw a large number of Carniolans from imported queens. As

always before, when I have seen the pure Carniolans, I was very much pleased with their appearance. Their very large bodies and light-colored rings, formed by the gray hairs, make them indeed very attractive.

As I had never had a chance to study them I was of course interested to investigate their most pronounced superiority—amiability. We went to the hives late in the evening—Mr. Benton said it might as well be in the night—opened the hives with no smoke, and examined them without any bee veils. As is well known, bees are often angered by quick motions or jars. Mr. Benton lifted a frame half way from the hive and let it drop, and yet there was no show of anger. He also struck at the bees with his hand, and blew on them roughly, and yet there was no show of resentment. From the size, beauty and amiability of these bees I am ready to regard them with much favor.

Mr. Benton—than whom there is no better authority—informs me that they rank with the Italians as honey producers. He says that the comb is as white as that of the black bees, as these bees, like the black bees leave a little space between the honey and the capping. Mr. Benton acknowledges that they do have the swarming instinct a little more pronounced than the other races, yet he thinks that this is induced, often, at least, by over-heating in the hive, and will give no trouble if the hives are properly shaded.

Mr. Benton also told me, a fact of which I was well assured before, that the pure Carniolan would never have a show of the yellow bands seen in the yellow races or the hybrids. In case the yellow does appear there is certainly some taint of blood, usually Italian.

From all my reading, and from what I learned from Mr. Benton, I believe that the Carniolan bees are well worthy of trial, especially by those who are timid when working with bees. I feel myself that I would like to go into the queen-rearing business, did my duties permit, and confine my attention to this race of bees.

JUDGE LAURENS HAWN,
American Bee Journal,
October, 1889

I have 80 colonies of bees, and I am preparing to winter them in the cellar. I will say of my Carniolans, that the queens are larger and more prolific than my Italians; the workers are also larger, very gentle, being easily handled without smoke. They stick to their combs so quietly and

tenaciously, that a comb covered with bees could be taken to the house, the queen removed, and the comb replaced in the hive, without dislodging a half a dozen bees. They are readily distinguished by the white bands, which, when the bees are in the shade, give them a silvery-gray appearance, which at once discloses their identity. They may be distinguished from the blacks at once, without trouble. The queen is larger and stouter than the black queen, and more of a dark-bronze color. With me the Carniolans are better honey-gatherers than the blacks, their combs are whiter, and they use mostly wax in place of propolis. As compared with Italians, I am not prepared to say that they are equal in honey-gathering qualities. I shall watch them carefully next season. In hiving, they are more easily managed than either blacks or Italians; their queens are very fine.

E. F. QUIGLEY,
American Bee Journal,
November, 1889

.... I would say that the Carniolans are as good honey-gatherers with me as the best Italians. They do not crowd the brood-chamber, if given a chance to store above, and a smaller number will enter a surplus case and work. They use very little propolis, their sections are clean, as compared to other bees, and the sealed honey has a fine appearance, the capping being white. They have not been so bad about swarming for me as the Italians, and they are much gentler than other races.

The Carniolans get out early, and have worked later in the sections—in fact, they were the only ones giving any fall surplus. All swarms were hived in one section of the new Heddon hive, and none of them swarmed again. I believe that they will stand contracting better, and contracting will relieve the surplus of bees that are reared in large hives.

They are quiet in winter, and in summer they are slow about settling. The progeny of the queen introduced to a cross colony, are not so gentle at first as they will be afterwards; this disappointed me for a time, therefore I shall use my best colony as nurse bees.

They cling to the combs better than black bees, but not so well as the Italians. They defend their homes well, but I have never seen one trying to rob another colony. This fall they found some wet candy that was thrown out by a groceryman within 10 yards of some Italians, and the Carniolan bees had carried it nearly all home before the other bees found

it. I noticed them working very busily, when the others were not flying, so I hunted them up, with the results stated.

It takes but little smoke to subdue them, and some of them can be handled without any. A small swarm of the Carniolans stored 48 pounds of surplus white clover honey in the comb, and still have about 25 pounds in their hive. I shall breed for gentleness and honey-gathering qualities.

Care should be taken that the surplus honey is not taken away too close, as they will store all the honey above, leaving the brood-chamber empty; this is a valuable trait if properly used. My system is, to give them a case of frames of empty comb, placing it below, about the close of the clover harvest, and as the queen goes below to lay, the case above is filled with honey as soon as the bees emerge, and at the close of the season the lower case is removed, crowding the bees into a small space for winter. I shall discard all other bees, for I like the Carniolans, all things considered, better than any other race of bees.

E. L. PRATT,
American Bee Journal,
April, 1890

THE Carniolan bees have been attacked by those who say that they are cross, and hard to handle. Their reputation depends a great deal upon their purity. I, for one, would not recommend them, if I were not convinced that they were very desirable, good workers, gentle, and second to none in many of the noted characteristics.

As a test of their gentility, I have often taken unbelievers into my yard, opened a hive, and taken out the combs without the use of a single puff of smoke. Very often I would take a comb by one corner, and swing it about my head at such a speed that the thin honey would sprinkle out. Not one bee would leave the comb, nor would they be thrown off by the motion, but "cling like death."

We all know that soon after a honey harvest closes, there is a desire to rob, and bees cannot be handled so well on this account. But the Carniolans will remain inside their hives, unless sweets are exposed, or hives left open for any length of time. We must bear in mind that they are an eager race, and always on the alert for something sweet; therefore the apiarist should not attempt to handle them directly after a honeyflow, for fear of teaching them a bad habit.

They are not given to robbing each

other, but they will appropriate exposed or poorly protected sweets during a dearth of nectar, the same as any race of bees.

In a yard of all Carniolans, there is very little robbing, even at times when such a condition is most favorable. In a hand-to-hand fight, Carniolans vs. Italians, however, the Carniolans come off best every time, showing their extraordinary powers of protection.

S. L. WATKINS,
American Bee Journal,
May, 1890

AFTER the past very hard winter, a great many bees have been lost in the northern countries of California, especially the counties where the snow fell to a depth of 15 or 20 feet. Where Carniolan bees were kept, they wintered splendidly, thus proving the hardiness of this race, especially where long confinement was necessary. They seem to be the best adapted to this climate. Their quietness in winter is a good point in their favor.

Some beekeepers claim that their swarming propensities are a serious drawback against this race; others that as soon as the queen is gone, laying workers immediately take possession. I have had considerable experience with this race of bees—have bought queens from some of the best breeders in America, and they all turned out well. I can build up a Carniolan colony larger, and keep it so, better than I can an Italian colony. As regards laying workers, I have not been troubled with them, and I reared in the neighborhood of 300 queens, too, from this race.

FRANK BENTON,
American Beekeeper,
July, 1891

I give herewith a few remarks explaining why yellow blood crops out now and then among the bees of Carniola....

The purest type of the Carniolan race is dark gray, or steel colored, larger than our common bees, and wholly free from yellow bands. Whenever yellow is found among bees in Carniola it is to be taken as an evidence of Italian blood. Carniola is located in the southern part of Austria, near the head of the Adriatic Sea, and is only separated from Italy by a single narrow province—Gorizia.

The line between the last named province and Carniola follows a range of mountains extending in a southerly direction from the main part of the Carnic Alps. The history of beekeeping in Carniola shows that the migratory system has been followed there for some centuries. During the buckwheat yield many thousands of colonies of bees are brought by rail and by wagon from all parts of Carniola, and from adjoining districts toward the center of the province. I have seen a railway train bearing five thousand hives of bees and their attendants to the buckwheat fields. Some colonies are even brought over the mountain range which separates Gorizia from Carniola, whose elevation is from 1200 to 2500 feet. Bearing in mind that Gorizia borders on Italy and that its surface slopes toward the Italian line and the Adriatic, and, in fact, that between the Carnic Alps and the great valley of the Po, which drains nearly the whole of the northern plain of Italy, there is no mountain barrier to prevent an admixture of the bees native to these districts, it is easy to understand how it is that the bees southwest of the Carnic Alps shade off or merge gradually into Italians, since migratory beekeeping is not practiced to any great extent in the northwestern provinces of Italy.

With these mixed bees more or less yellow blood has been brought from Gorizia into Carniola and scattered about. In buying or breeding bees in Carniola, I have always avoided queens whose workers showed any yellow or rust-colored tinge. Such bees are generally more irritable than the pure Carniolans; they do not breed true to type and in fact are more like hybrid bees. Nor have I been able to discover that they possess any traits superior to those shown by the distinctively gray bees which are so largely in the ascendency all over the province of Carniola. The bees offered for sale in this country under the name of "Yellow Carniolans," or "Golden Carniolans," are simply hybrids; bees having blood of some of the yellow races—Italians, Palestines, Syrians, or Cyprians—in their make-up. Verily, some do love the color of gold.

GILBERT M. DOOLITTLE,
American Bee Journal,
December, 1902

.... Carniolan bees are natives of Carniola and were imported mainly into this country through Frank Benton, when he was in Germany. There seems to be a difference of

opinion regarding them, some extolling them very highly as comb-builders and honey-gatherers, while others have no words of favor for them. Some years ago I obtained a Carniolan queen, and, from experiments, comparisons and close observations, it seemed to me that they were very nearly allied to the black bees I had years ago when I first entered beekeeping. There were several traits about them I did not like, so I got rid of them. The two main dislikes were that they would not go at brood-rearing to make a business of it until the honey harvest came on, when they would boom their brood at a tremendous "pace," and begin to swarm, and keep at it all through the honey harvest, which resulted in the consuming of nearly or quite all of the honey gathered in rearing bees, which, later on, would consume all there was left in the hive before winter came.

Later on I was led to think that the bees I first tried might not have been the genuine article, so I procured some queens from two who advertised them. But these proved to be little different from the first. I kept them two years, but as I have had to feed them for winter, with no results in surplus honey as compared with the other colonies I again pinched the heads of all of these queens and installed others in their places. There may be localities where the seasons and honeyflow are different, where they would do well, but I cannot help thinking that where there is only one regular honeyflow, and that lasting only three or four weeks, the Carniolan bees are about the poorest of any bees.

SIDE LINER

I am a one armed man working on a farm by the year and as a hobby I keep bees which I like to take care of. Last year I got over 200 pounds of honey from two stands of bees and I sold all my comb honey for 17 cents a pound. I have a good home market here for all I can sell.

Otto Burkhart,
South Amana, Iowa.

MINNESOTA

So far this winter we have not had any bad cold spells that should be hard on bees. We have had two bad snow storms that might have drifted into the hives, but with top entrances, it shouldn't do much damage. The first storm, the 11th of November, caught a lot of bees unpacked, and not in cellars, with some reports of damage.

Robert M. Ray,
Robbinsdale, Minn.

DEPARTMENTS

HOLLYHOCK—Out of season, since it blooms in midsummer; but such a good picture by Fred Chadde, of Chicago. Hollyhock is one of the oldest, cultivated garden flowers, a native of China, but found in every old fashioned garden. It figures much now in roadside plantings. Bees like it, all kinds, and visit it constantly.



MARCH, 1941

THIS AND THAT • • FROM HERE AND THERE



BEES IN A WALL

Two recesses built in a wall in north England to receive bees in straw skeps during the honey season. The picture was received from

England by M. J. Rowland, at the Experiment Station, Kapuskasing Ontario, and sent in by him.



A RUSTIC STAND IN WASHINGTON

We are indebted to The Washington Farmer, through James Bracken, Field Editor, and Julian Joubert of Enumclaw, Washington for this picture of Joubert's honey stand. The

Washington Farmer used a feature story of the Joubert honey enterprise. We quote from it:

"Most of the people who buy honey from us," says Joubert, "are from the

city. They stop here on their way to or from an outing in the mountains. We have them almost under an anaesthetic from the delight of getting out where they feel closer to nature. We could sell them almost anything, and that puts us under a responsibility to treat them right.

"Milk and honey are the poetry of rural life. I can think of no other two products that need so scrupulously to be kept perfect through every stage of handling. To do it the best possible way requires extra care from beginning to end, and that means extra expense. We are selling five-pound pails of honey for a dollar, and the chain stores have sold them for as little as 37 cents.

"Most of the people who stop to buy from us are out for a good time. They are a little excited about it. They would like to be able to stop, make their purchases and go right ahead and eat what they have bought in their car. They can't do that with honey, so we have been making honey caramels which they can eat in the car. The caramels are made from honey, milk and walnuts, with nothing else, except several hours of painstaking effort and careful stirring." Beeswax candles are another item Mr. Joubert has for sale. At the time the picture was taken by Mr. Bracken, the stand was being operated by Ann Boyle, of Enumclaw, whose pleasant smile and cheerful manner probably had much to do with the way the honey sold. The personality of the one in charge of the selling has an important bearing on the amount of sale, according to Mr. Joubert's experience.

THE BRIGHT SIDE

My beekeeping is a little different from the average beekeeper. I have bees in southern California that are whitening their combs of brood and are getting stronger from week to week. I have bees in the hills where there is no end of wild life, California quails, doves, and deer. Moving bees to Utah takes me to the best trout fishing to be had anywhere and, too, I hunt elk and deer. So with all the disappointments and worries of the bees we beekeepers have another side of the business that is not so bad.

L. B. Crawford,
Santa Ana, California.

IN THE BARN LOFT

This picture of bees in a barn loft was sent in by Harry Hull, of Chicago Heights, Illinois. They remind us of bees in the attic of many homes and in various parts of houses which we used to see. These bees swarmed every year even though they had all



the room in the world. They made quite a little honey. This was obtained by cutting the well-filled combs off from the sides of the nest, and then the bees were left until the next season. Very easy beekeeping for home use!

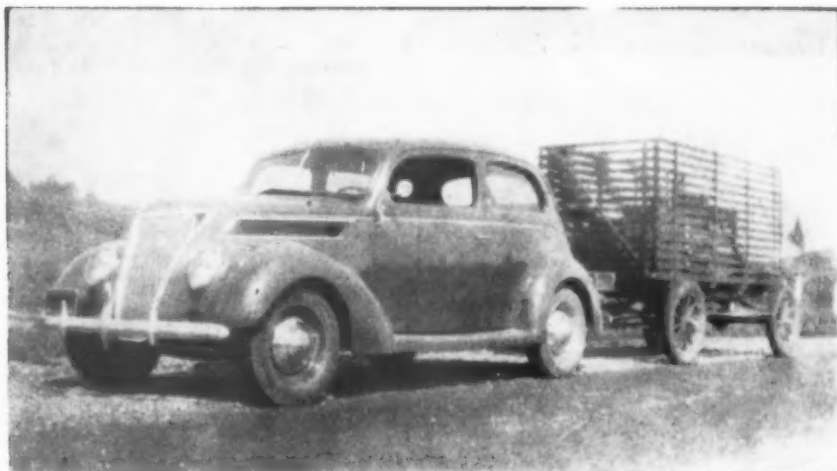
is of a device used at an outyard of Ross Wyant, Sylvania, Ohio, an ordinary washtub three fourths filled with water, with several strips of bark from a log or dead tree. The bark acts as a wick, the moisture

coming up in it some distance and the bees liked it.

Washtubs are cheap and bark is easy to get, so all in all, this is a good solution to the watering problem.

Edwin Goff, Blissfield, Mich.

CAR TRAILER



We used to move bees by truck, requiring from four to six men for loading and unloading. We now use a homemade four wheel automobile trailer like the one in this picture. It is easier on the bees and much

more convenient. It hauls fifty single story colonies or twenty-five real heavy colonies.

Wm. R. Stephens,
Wingate, Indiana.

WATER



I have noticed items in the Journal about watering devices. This picture

THIS EVER HAPPEN TO YOU?



This colony was placed close to a tree to shade it part of the day. I noticed the tree was none too sound and put the hive so the trunk would not fall onto it, but I didn't expect the ground to uproot, however, which actually happened when the tree fell

during a wind storm and made a mess of the hive. The bees were cross, clustered everywhere, and the combs were smashed.

Edwin Goff,
Blissfield, Mich.



MELANA CLOVER IN NORTH DAKOTA

Our Melana sweet clover seed was soon in rows in a plot adjoining our experiment station bee yard on May 2, 1940, and by the 10th of July it was coming into bloom nicely, and it bloomed profusely throughout the season, but the first week or so the bees paid little attention to it. Later, they worked it vigorously.

The picture is of Prof. O. A. Stevens in the Melana clover. The tall plants near him are of yellow cleome which began blooming about August and continued until frost in early October, reaching a height of about seven feet. According to Prof. Stevens, cleome grows less than half this height in native areas. The Melana grew to a height of about twenty inches.

J. N. Munro,
Dept. of Entomology,
North Dakota Agri. College,
Fargo, North Dakota.

BAN ON CANADIAN IMPORTS

Most of us know now that American honey is on the all-out list to Canada, honey in the comb, or otherwise, and imitations thereof. Only honey in transit by December 2 was permitted to continue on its way.

More than 1,700,000 pounds of honey was imported into Canada the past year, to permit Canada's own export demand to be met, and to supply domestic demand as well.

Joseph I. Touchette, American consul in Montreal, recently delving into the situation came up with these facts: "The duty on U. S. honey entering Canada is 1½ cents a pound. There is an added 11 per cent for the difference in exchange value of

money, plus a war revenue tax of 10 per cent. In other words, honey bought in the U. S. for Canada at a price of 5 cents had to have added a freight of at least one cent, making the base price 6 cents. Adding 1½ cents duty and ¼ cent for exchange, U. S. honey costs the Canadian buyer in the neighborhood of 9 cents. So it is apparent that U. S. honeys can hardly expect to share the Canadian market except in rare circumstances."

(From Western Canadian Beekeeper.)

[Thanks, Mr. Touchette. At least that is balm of a sort.—Ed.]

TEXAS ADDS INSPECTOR

Announcement from State Entomologist, Thomas, whose station is at College Station, Texas, informs us that C. J. Burgin, formerly foulbrood inspector in Texas, is to return to Texas as inspector in 1941 from South Carolina where he has been operating. The addition of Mr. Burgin has been caused by the death of Bee Inspector Heard, of Texas, and the advancement of W. C. O'Neal to be chief in that state.

ALBERT CLAGG HONEY STAND



This honey stand on the U. S. highway just north of Bellefontaine, Ohio, sells a lot of honey each year for Mr. and Mrs. Albert Clagg.

You can't miss it if you are driving that road. There are several attractive and forceful signs which catch your eye as you approach from either direction. There is plenty of room in front of the stand and at either side of cars to pull off the road out of traffic and park. All of these things add to the effectiveness and value of the stand, including the fact that it is especially well-kept and clean.

Mr. Clagg's honey house is just back in the trees. He is a railroad man and was gone when we stopped. Incidentally, railroading and bee-keeping seem to work pretty well together since we ran into a number of beekeepers in Ohio who practiced this combination.



A PERMIT, MR. AUCTIONEER!

E. L. Chambers, chief of the Plant Industry Division of the Wisconsin Department of Agriculture, warns auctioneers that the state law requires a permit before bees or used bee equipment can be sold. Application for permits must be made to the state department of agriculture. No fee is charged, but violators are subject to fines of from \$5.00 to \$100.00.

H. C. Brunner,
Milwaukee, Wisconsin.

THREE PIECE WINTER CASE

Here is a picture of our three-piece winter case, top, body, and supporting rim, holding one single wall hive equipped with one or two shallow extracting supers. It will also accommodate two full depth bodies.

We have been using these for



some time and never lost a colony in one of them yet. The case admits of two inch packing on the sides and from three to six inches on top. They are made from empty glass boxes used to ship glass in to hardware dealers, $\frac{3}{4}$ inch material. Every year I use them I think more of them.

The upper entrance in this case intersects the colony through the first shallow super about an inch above the bottom rim of the super. All our supers are equipped with a $\frac{5}{8}$ inch hole one inch above the bottom to allow the drones if any to escape after the queen excluder is placed under the supers.

A small block $\frac{7}{8} \times 1\frac{1}{4} \times 3$ inches nailed to a flat piece of tin cut $1\frac{1}{4} \times 3$ inches, and the projecting tin slips between the super and the hive body forms a convenient alighting board for the bees returning to the super above the queen excluder. It is surprising the number of bees that will

return to the super directly rather than returning at the proper entrance. In winter, bees make cleansing flights from these openings when they would not attempt to fly from the lower entrance at all.

James W. Bain,
Marion, Ohio.

JIMMIE BRASHIER SWELLS THE RANKS



This young fellow is starting out with his colony of bees. He is the son of R. Q. Brashier of Birmingham, Alabama, who is a machinist in one of the largest machine shops in that city. He has quite a few bees as a sideline, produces some honey for his own use and sells quite a bit of honey also. He sells package bees and queens to the local trade and in and around Birmingham and handles bee supplies. He picks up a considerable

amount of money outside of his regular work.

Many young boys start with bees in Alabama this way, as the Assistant County Agents are doing quite a bit of bee work through their 4-H Club boys. Each year a great many boys take bees for their project and find it very profitable and have honey for their own use.

Thomas Atchison,
State Apiarist.

CAN PERFECT JELLY BE MADE WITH HONEY?

By MILDRED ROSS

SINCE much interest has been taken in the use of honey in all forms of cooking and baking, obstacle after obstacle has been surmounted permitting its satisfactory use in practically every phase of the culinary art except in the preparation of the milder jams, jellies, and preserves. The constant complaint has been, "Honey masks the fruit flavor," but with a little reasonable deduction and very little extra precaution this fault can be entirely obliterated.

At a convention not so long ago I heard a discussion of this problem of jelly making and I really wondered just how some of the ideas presented there could have originated; one suggestion which I could not forget was especially outstanding for being directly opposite to the logical solution for making fruit jellies with honey. The suggestion was to **thin the honey with water** before adding it to the fruit juice.

Let us analyze the object of cooking jelly and the various conditions arising from this process. A jelly made with honey consists of the honey with its flavor, the fruit substances with their flavors, pectin (either added or in the fruit juice) and water contained both in the honey and the fruit juices. When these constituents are combined and cooked, the object is obviously to concentrate the liquid sufficiently by the evaporation of water to allow the pectin to solidify the substance.

It is axiomatic that honey will acquire a strong flavor when heated too long or too intensely; consequently the simple conclusion may be drawn that adding water to the honey before combining it with the fruit juice means longer cooking and stronger honey flavor.

Obviously the condition which will improve the flavor of jelly is one which will decrease the length of cooking time of the honey. One factor aiding us in the solution of this problem has already been presented to us both in the form of the commercially prepared pectin for sale at any store and the knowledge handed down to us by our grandmothers that crabapples, apples, green grapes and slightly underripe fruits contained something which aided the jelling process. We have since learned that this "something" is pectin which we can now buy in concentrated form.

Another factor aiding us in this solution was common knowledge also back in grandmother's day. This

other factor seems to have been forgotten since commercial pectins have been for sale. It is the fact that the cooking of sugar alone does not make it stronger, but grandmother knew that she did not dare cook her jellies too long with the sugar in them so she used the most simple solution. She cooked her juice down to the point where she knew that it was almost ready to jell before she added the sugar. This, without a doubt, is the main factor in solving the problem of making excellent jelly with honey.

A final factor in making good jellies and also making them more economically lies in making practical use of the knowledge that heat tends to destroy pectin thus making it necessary to cook more and more of the liquid away in order to make it jell. Now it can be readily understood that it is advantageous to cook the juice in a flat pan rather than a deep pan to facilitate quicker evaporation; that it is better not to add the commercial pectin until really necessary to eliminate unnecessary cooking of it and that it is doubly advantageous to add the honey at the very last moment because adding the honey increases the temperature of the jelly and aids in destroying more pectin. Unwanted flavors are sure to result if unnecessary cooking of the honey is carried on.

From these old and newly discovered facts a summation may be briefly drawn up to contribute toward the perfect fruit honey jelly;

1. Cook the juice rapidly in a flat, open kettle to facilitate the saving of the pectin already contained in the juice.

2. Do not add the commercial pectin until it is necessary to prevent unnecessary loss through heat destruction.

3. Do not add honey until the very last practicable moment to prevent the "masking" of the fruit flavor by the creation of the strong honey flavor.

With these three simple rules in mind, specific general directions may now be formulated for both jelly and jam preparation.

Honey Jellies

Prepare fruit juice in usual manner. Have as little water as possible and when cooking always boil at a fast roll to preserve all the natural pectin possible.

Measure juice, place in preserving kettle and boil at rolling boil until

juice equals about one-half the original amount. Add the required amount of a powdered pectin (commercial brand) which is usually two tablespoons of pectin for each cup of juice when originally measured. The liquid pectins are not advisable because they call for so much white sugar that the solid matter itself (white sugar) jells the juice without the added liquid pectin thus rendering it quite unnecessary. Always add the pectin before adding the honey. Let juice and pectin come to a boil. Remove at once and then add two-thirds of a cup of honey for each original cup of juice. Replace over the flame and cook rapidly, watching very closely until ready to pour. After the honey is added it is practically ready to pour. Only about two or three minutes of hard boiling will be needed to finish cooking. Never permit jelly to cook while a test is being made. Remove from the fire, dip a clean spoon into the liquid and then drop some on a cold plate. If it jells, pour immediately into the glasses. Allow to cool and set. Wipe around top of glasses to insure perfectly clean glass and then use paraffin.

Another method for testing which many persons prefer is to dip a clean, silver spoon which is very cold into the boiling liquid and hold it sideways to allow the jelly to drip off. If it divides as it leaves the spoon or drops in one slow thick sheet, it is ready to pour.

You may wish to try out just one glass of honey jelly at first until you gain confidence in yourself and see how you like it so here is the recipe which I have made up for one glass of jelly:

One Glass of Jelly for Trial

1 cup of fruit juice (grape, elderberry or plum is a good start). Boil down to $\frac{1}{2}$ cup of juice by boiling very rapidly. Then add 2 tablespoons of a powdered pectin. Bring to a boil, add $\frac{2}{3}$ cup of a light colored clover honey and watch as it is practically ready to pour. Test and turn into your prepared glass.

Honey Peach Butter

14½ cups uncooked peaches prepared for cooking.

9 $\frac{2}{3}$ cups clover honey (or any other very mild kind).

3 boxes (3 oz. size) powdered pectin.

Method: Skin peaches and remove seeds before mashing and then measure. Cook until the fruit is thoroughly cooked and then force through a coarse sieve. Replace over the flame and cook until all extra juice has evaporated. Add powdered pectin, raise to a boil and then add the honey. Watch closely as it will be only a few minutes of cooking until ready to seal.

Canton, Ohio.

QUESTIONS AND ANSWERS

POLLINATION OF ALFALFA

I am stuck on a question that came up a few days ago and I will appreciate your opinion on the matter. A friend of mine has 200 acres of alfalfa that he plans to let go for seed and he asked me to put in lots of bees. I told him my friend has 100 colonies on the adjoining ranch and I do not feel that it would be good ethics for me to establish a yard on his place. He says he does not have enough, because he did not see many bees on the bloom last summer. He had only 2,000 pounds of seed, and much of it was not fully matured. There was plenty of seed, but it was all shriveled up. I asked him if he didn't think it was due to drought and other conditions, but he said he thought it was due to the blossoms not being properly pollinated. I have 100 colonies two and one-half to three miles from this particular place. My bees are to the southeast, and three miles northeast is another yard of 100 colonies.

I would like your estimate on the number of colonies an acre of alfalfa will take care of under ideal conditions, as well as under fair to average conditions.

Harry J. Rodenberg,
Montana.

Answer, by Frank C. Pellett.—Unfortunately, we do not have very definite information on this point and we would like to know more about it. In a particular case like yours much depends upon the number of other honey plants in bloom at the same time and how much more alfalfa might be within flying range of the bees at the time of blossoming. It has commonly been thought that perhaps one hive of bees per acre of bloom within reach might be sufficient, but reports of recent experimental work throw much doubt on that point.

We are informed that some experimental work carried on abroad has indicated that a very large bee population is needed to secure full pollination where a large number of flowers are open at the same time as in the case in an orchard or clover field at the height of bloom. It is indicated that perhaps as many as five hives of bees per acre might be needed to secure a full crop of seed or fruit. Much depends, however, on the weather at blooming time.

Thus, we see that the interest of the beekeeper who is primarily concerned in getting the largest possible crop of honey might not be the same as that of the farmer in getting maximum pollination for the crop in which he is interested. It is probable that more seed would be secured through the competition of a large bee population which would be more than enough to harvest the available honey. Thus the seed producer might be benefited by a greater number than would be profitable for honey production.

PARTS FOR "AIR-WAY" SUPER

I have become interested in the article on producing comb honey so I would like to know whether or not it is good practice to produce comb honey in the Modified Dadant hives using the Air-way method. Second, where can the T shaped tin rests be bought, and any other parts, such as following boards and spacers between the sections? I

am new at beekeeping, but I feel that I want to produce the best grade of comb honey of which I can be proud. Also I feel as long as I am keeping a few colonies I want to produce something with which the market is not overloaded.

Byron Gummoe,
Illinois.

Answer, by Carl E. Killion, Paris, Illinois.—Although I do not recommend the production of comb honey in the deep frame hive, there are some beekeepers who have succeeded in doing so. One objection that I have, and I am sure the editor and the Dadants will agree, is that it is difficult to produce a heavy weight section on the deep frame hives. That is no fault of the hive itself, since this hive was designed for extracted production. If you are in a location giving good honeyflows of white honey, I am sure that you could obtain wonderful honey produced on the Modified Dadant hive, but if the flows are rather medium in amount, my recommendation is using another larger than the 10-frame Langstroth depth. Perhaps with ten frames in these hives and a follower on each side, much better results could be expected. The greatest yield of honey I ever obtained was from a hive fixed this way and using a two inch entrance in addition. This was in 1927 and this hive gave 575 pounds besides enough for winter.

Announcement has been made in the February classified department of the American Bee Journal regarding parts for the T super.

TWO-QUEEN COLONY

What is a two-queen colony? How do they work?

James Hamilton,
Oregon.

Answer.—A two-queen colony is a colony in general which has two queens separated by a queen excluder, one in the lower story and the other two or three stories up. Two queens are run right along together until about the height of the honeyflow when they are combined into one colony to throw all of their force to honey production. We suggest that you start with the single colony system and learn that thoroughly before going into the involved two-queen plan of management.

CUBAN HONEY

Are the Cuban honeys known as El Aguinaldo and El Panal produced from trees or from flowers?

Miles P. Wonson, Jr.,
Massachusetts.

Answer.—(By James I. Hambleton, In Charge Division of Bee Culture, U. S. D. A.) El Aguinaldo is made from several species of campanilla, considered the most important source of nectar in Cuba. It is a perennial vine that grows on the ground or in the form of thickets or bushes, or climbs fences, trees, etc. The white campanilla, or white bellflower, is the best of several species of which there are also the blue, purple, rose,

and yellow bellflowers. Its Latin name is *Ipomoea sidacifolia*.

"Panal" in Spanish means "honeycomb"; so El Panal is probably just a trade name and has no significance as to source of honey.

El Aguinaldo has been extensively advertised as a "miracle honey," and it has been recommended as a cure for almost all human ills. The chemical composition of El Aguinaldo honey, however, does not reveal that it is materially different from any other honey, and certainly claims that El Aguinaldo honey possesses curative properties not found in other honeys have not been proved and are entirely unwarranted.

WATER

I have twelve colonies in town and my neighbor has a fish pond the bees visit to get water in spring and fall. The neighbor is afraid although the bees have never bothered. I have tried to keep the bees away from the fish pond by giving them water at home with salt, sweetened with sugar and fresh, in separate containers but some insist on going to the fish pond, although many get water at home. I dislike to give up beekeeping and wonder if there is some chemical which could be put in the fish pond which would not injure the gold fish and at the same time be distasteful to the bees to keep them away. Would an ordinary friction top bucket feeder filled with water inverted over the frames of each hive give the bees enough water so they will not go out of the hive to get water? Or, what can you suggest to keep the bees from the fish pond?

William J. Linfoot,
Oregon.

Answer.—Yours is a very difficult proposition. The only way I can see that you can help the matter any is to give the bees still more access to water in your own backyard and salt the water thoroughly. While the bees may go elsewhere, I believe that if you persist, eventually you will get rid of the bees around your neighboring trough. Start your watering very early in the spring so the bees will never have a chance to get accustomed to going elsewhere.

You might try brushing a little carbolic acid surrounding the pool of the neighbors. Carbolic acid is very repellent to bees and this might be the solution. Of course a pail of honey given to the neighbor will not hurt anything either.

PACKAGES ON COMBS

Do you like the plan of having a colony fill an extra brood chamber in the fall and installing packages in it in the spring? I have read of this plan and believe that it also gives good straight combs. I have a double Modified Dadant brood chamber and plan to get a package for the top.

Hugh Thornburg,
Missouri.

Answer.—Yes, it is much better if you get your combs drawn the previous year and have the packages on fully drawn combs, particularly if the combs have honey and pollen in them, to give the bees a thorough start.

Combs are drawn most satisfactorily over a brood nest during a honeyflow. This means that your second story of combs will be drawn almost perfectly. If left to the package to draw out foundation, there is always difficulty unless the bees are fed heavily and even then the combs they make are not likely to be good.

AMERICAN HONEY INSTITUTE

Let us aim to get honey on the table as a food needed in the diet of the American family.

The Institute is greatly pleased with the help promised them by Departments of Markets in the various states and colleges in connection with emphasizing honey in the Nutrition Defense Program.... The health of the nation depends on the individual. It is our duty to keep fit and honey will help us do it.

On February 5, Harriett Grace was interviewed on honey by two persons over WLS, the Prairie Farmer Station. This station perhaps reaches the largest radio audience of the Middle West. Mr. Page told the audience that he had started the day by eating Honey Jelly. Mrs. Louie said that she is especially fond of Honey Butter for use on griddle cakes and waffles. In this interview the important part honey plays in bakery goods and candy and the importance of honey in the daily diet were brought out. Beeswax candles received a boost. The point that no one in this great era of science has been able to improve the product of the busy little bee was stressed.

Pillsbury's have a full double page advertisement in the February 1 issue of "Baker's Helper," in which was a new formula for cherry crown cake. Honey is incorporated in the glaze.

The Los Angeles Times on thirteen different days during November and December gave honey specific mention. On two other occasions special recipes using honey appeared. Ten cooking schools, held from November 6 through December 11, drew a total attendance of 25,818 people. No brand of honey was mentioned. A honey quiz was a feature of one of the classes and served to further interest in the everyday use of honey. The director of the Home Economics Department of the Los Angeles Times wrote to the director of the American Honey Institute, "Knowing you has given me new and increased interest in the use of honey."

Honey for Breakfast week begins Easter Sunday morning. One of the largest food concerns in the country writes, "Smart idea—Honey for Breakfast."

"Honey the Clock Around" is an attractive leaflet with excellent ways to get honey in the daily diet. It has the hands of the clock set at 7:30 for breakfast with the caption, "Start the day in one sweet way!" "Use honey on your fruit, cereals and in your morning drink whether it be coffee, cocoa, milk or tea—It's delicious and Nutritious!" Recipes for baked apple, honey breakfast muffins and apricot conserve are given. For lunch we have recipes for fruit salad, honey cinnamon toast, chocolate cake with a luscious, smooth-as-velvet frosting that is easy to make. It keeps well and does not get sugary. Afternoon tea has recipes for date nut bread, honey butter and dessert ginger cake. For dinner we have broiled grapefruit, baked ham, casserole of sweet potatoes and oranges. The evening snack has honey eggnog and sandwiches. Sorry there is no room for more recipes.

Are you planning a honey exhibit for your store or fair? If so, perhaps there may be a suggestion in this for you.

Place an electric light behind a display of honey in glass.

A mirror as a background, or on top of a table adds the effectiveness of the display.

A "Honey Quiz" with prizes of honey awarded may be worked out.

A loudspeaker brings returns—considering that it can be used year after year, it is not expensive.

One might ask various persons to be responsible for it at various hours of the day.

Prepare an interesting script to fit your locality. One might say:

Good morning, Fair Folks. Isn't this a beautiful Fair Day and isn't the exhibit a honey?

Folks do you start the day right by eating honey?

Do you know that honey supplies quick energy?

Do you know that honey keeps baked foods moist?

Do you know that honey flavors as it sweetens?

Do you know that honey gives a grand flavor to our meals?

Do stop at our booth and take home some leaflets that contain tested honey recipes.

Stop at a honey booth and take some honey to the folks who **bee** not here.

Do you use honey on cereals and fruit?

Do you use honey on your ice cream? Next time you want to have a delicious ice cream sundae, pour some honey on your ice cream. My, but it is good! Maybe you will want to sprinkle some chopped nut-meats over it.

What shall we have tonight for dinner? I'll tell you. Let's have some good griddle cakes with honey.

Honey is a home grown sweet. It is here right from the apiary today. Stop at one of the booths and ask what flavor they have.

Honey flavors salads in a unique way.

Of course you always use honey on baking powder biscuits!

You don't need a dessert when you serve honey.

Good afternoon, Folks. Isn't the exhibit a honey!

Do you use honey in canning your fruit? If you don't, why not write to the American Honey Institute at Madison for free recipes.

Every school child loves honey. It is good for children as well as for us grown-ups.

Boys and girls should eat honey and see whether it helps them study better.

Boys and girls, you can make your own honey sandwich spreads for your school lunch. Stop here at the booth and we will tell you just how to make two or three kinds to keep on hand.

Honey is a natural sweet. It is nutritionally valuable food.

Keep honey in a warm, dry place 75 degrees or over.

Honey makes every breakfast a treat.

Have you a good recipe for pumpkin pie? Stop here at the booth and we will give you one.

Try one of our honey baked ham sandwiches.

If you haven't eaten honey baked beans, you have a treat in store for you.

Make your apple pies better by adding honey.

Have you tried any of the delicious honey candy?

You know honey is the sweet that nature makes ready to eat.

Reasons for using honey daily—

Honey supplies quick energy.

Honey keeps baked foods moist

Honey flavors as it sweetens

Honey gives extra nutrition.

Honey gives an added and delightful flavors to our menus.

Honey gives improved flavor and extra nutrition to our meals.

DIVIDING OVERWINTERED COLONIES

(Continued from page 118)

screened for forty-eight hours when the screen is removed late in the evening. A division of this type made in early May will build up and provide as large a crop of surplus honey as a 2-pound package imported in May.

Divisions of strong overwintered colonies may also be made in the following manner:

When overwintered colonies build up rapidly in the spring supply a second brood chamber and allow the development of the colony to proceed as rapidly as possible. In early or mid-May place all of the capped brood and queen in the lower brood chamber and the uncapped brood in the second brood chamber. Place the second brood chamber on a bottom board at a new location and screen the entrance. Introduce a queen by either of the methods previously described and close the hive. Two days later remove the screen from the entrance of the nucleus colony.

Morden, Manitoba.

MEETINGS AND EVENTS

March Meetings In Indiana

Date	County	Town	Time
March			P. M.
10	Blackford	Hartford City	1:30
11	Wells	Bluffton	1:30
12	Adams	Berne	1:30-7:30
13	Huntington	Huntington	1:30
14	Wabash	North Manchester	1:30
14	Wabash	Wabash	7:30
15	Miami	Peru	1:30
17	Boone	Lebanon	1:30
18	Clinton	Frankfort	1:30
19	Carroll	Delphi	1:30
20	Cass	Logansport	1:30
21	Grant	Marion	1:30-7:30
22	Tipton	Tipton	1:30
24	Fulton	Rochester	1:30
25	Marshall	Plymouth	1:30
26	St. Joseph	Walkerton	1:30
26	St. Joseph	North Liberty	7:30
27	Elkhart	Elkhart	1:30
27	Elkhart	Goshen	7:30
28	Kosciusko	Warsaw	1:30
29	Allen	Port Wayne	1:30

Middlesex County, March 29

The Middlesex County (Massachusetts) Beekeepers Association will meet at 19 Everett Street, Concord, on Saturday, March 29, at 7 P. M. Chester A. Robinson, principal of the Josiah S. Kendall School and Mark R. Shible, principal of the Daniel Butler School of Belmont will talk on "Educational Opportunities for the Beekeeper," illustrated with moving pictures and slides. Mrs. Halliwell, of Billerica, will be in charge of the supper served by the

Ladies Auxiliary, featuring Chinese chop suey with noodles, green salad, biscuits and honey, honey mince and honey apple pies, cheese and coffee.

Arthur M. Southwick,
President.

South Carolina, March 14

The Palmetto State Beekeepers Association will meet in the Chamber of Commerce rooms in Columbia, Friday, March 14. At this meeting we hope to have E. R. Root, president of the A. I. Root Company, Medina, Ohio; A. D. Hiatt, manager of the G. B. Lewis Company, Lynchburg, Virginia and H. J. Cary, manager of the A. I. Root Company, Norfolk, Virginia. We are planning to have one full day of good beekeeping. Come and bring another beekeeper with you. Out-of-state beekeepers are more than welcome.

E. S. Prevost,
Extension Specialist.

Bronx County (New York City,) March 9

A meeting of the Bronx County Beekeepers Association will be held at the home of William Lienhard, 2341 Herman Avenue, Bronx, on Sunday, March 9, at 2:30 P. M. A cordial welcome is extended to all who are interested in matters pertaining to bee culture.

Harry Newman,
Secretary.

Virginia State Beekeepers Association

Saturday March 22, 1941

John Marshall Hotel

Richmond, Va.

10:00—Today's Program. Explanation—President W. A. Caldwell.

10:15—Secretary Treasurers Report—H. W. Weatherford, Secretary.

10:30—The Lynchburg Convention—Association members.

11:30—The Value of Methacrylate Resin in Preserving Plants and Insects for Exhibit—G. T. French, State Entomologist.

11:45—The Fruit Growers Will Co-operate—A. H. Teske, Ext. Horticulturist.

12:00—Appointment of committees—President Caldwell.

12:15—Lunch (Hotel dining room)

Afternoon Session

1:15—Honey and Other Natural Foods—Miss Janet Cameron, State Dietician.

1:45—October Convention, Scenic Tour.

2:30—County Agents Can Help.—O. B. Ross, Co. Agt. Amherst.

2:45—North Carolina Will Contribute to the Lynchburg Convention—P. G. Craddock, State Apiary Inspector.

3:00—Election of officers.

Package Bees

that live and pay.

Shipped promptly on dates specified.

Three band Italians.

2-lb. Pkg. and Queen \$2.00
3-lb. Pkg. and Queen 2.60
4-lb. Pkg. and Queen 3.20
5-lb. Pkg. and Queen 3.80
Young laying queens .60

15% discount to dealers.

Orders booked without deposit.

Citronelle Bee Company

J. T. Haertel Citronelle, Alabama

When you can buy the best at money saving prices,

Why not?

Bee thrifty and buy your Three Banded Italian queens and package bees from the company who will satisfy you. We guarantee, full weight, quick service, free from disease.

Prices

2-lb. pkg. with queen \$1.70
3-lb. pkg. with queen 2.30
4-lb. pkg. with queen 2.90
Queens, each .50

HOMAN BROS. :: SHANNON, MISS.

BOLENS GARDEN TRACTORS

Write for description new models. Nine sizes—Power Hoes at \$79.50 to heavy duty Hi-Wheels pulling 10" and 12" plows. Equipment for cultivating, seeding, plowing, spraying, mowing, snow removal, etc. Time Payment Plan. BOLENS, 3145 Park St., Port Washington, Wis.

SPECIAL

100, 3-lb. Pkgs. with Queen, \$2.25

For shipment May 1st, 1941

Fine young Italian queens 60c any number. These are not sugar syrup queens.

L. W. Lange, Richmond, Texas

THREE-BANDED ITALIAN BEES and QUEENS

Highest quality, young bees, good workers, large capacity

PRICE

2-lb. pkg. with queen \$1.90
3-lb. pkg. with queen 2.45
Young Laying Queens .60

Live delivery, prompt service and satisfaction guaranteed.

W. O. GIBBS, Willacoochee, Ga.

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No one can beat our Prices

Quality Considered**J. E. WING & SONS**

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Shows the Way to Success

Gives the latest news and views of the rabbit world—an illustrated monthly magazine of general and educational features. One year \$1.00; three years, \$2.00; sample 15c.

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**FAR MORE TO OFFER BUT
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Opportunities galore for
Indian Summer enjoyment
of all sports and recreations.
Cautative mineral waters.
Write today for complete
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MODERN RESORT**

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An adequate supply
of Dadant's Crimp-
wired Foundation will
assure you fine combs
this season. You are
protected too, when you know it
is made of pure wax.

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HAMILTON, ILLINOIS

**IMPERIAL
ITALIAN QUEENS CAUCASIAN****Combless Package Bees—Nuclei**

Hardy, prolific and great honey producers. Well reared and well fed, and well liked. Place your order early for prompt shipment.

2-lb. Package with queen	\$1.98
3-lb. Package with queen	2.49
Untested queens	each .75
2-lbs. bees, one comb and one queen introduced	2.85

THE COFFEY APIARIES

::

WHITSETT, TEXAS**Dixieland's Leather-Colored Italians**

The best stock of Leather-Colored Italians—queens and package bees. Our strain of bees have been improved through years of testing and selecting queens from a strain of Dark Leather-Colored Italian queens that was originally imported from Italy. These years of testing and selecting have produced a gentle, hardy and as good a honey producer as can be found on the market today.

2-lb. pkg. with select queen	\$2.00	4-lb. pkg. with select queen	\$3.00
3-lb. pkg. with select queen	\$2.50	Select untested queens, each	\$.60

Write for prices on larger lots.

Book your order now and reserve your shipping date. Once we fill your orders, you will always be satisfied with our prompt service, full weight, low supersedure, and safe arrival.

You must be satisfied.

DIXIELAND APIARIES

::

GREENVILLE, ALABAMA

I take this means to notify my customers that I lost my records when my home burned last September. I have a partial list, made for me by my Postmaster, copied from M. O. stubs and most of the addresses are incomplete. Any one interested in receiving my price list write me or send in your first order directly from this advertisement.

J. Lloyd St. Romain.

COMBLESS PACKAGES—1941 SPRING DELIVERY

2-lbs. bees and queen, \$1.80. 3-lbs. bees and queen, \$2.30 Queen alone 50c
10% deposit to reserve shipping date.

Service—Quality—No Disease—Live Delivery Guaranteed

ST. ROMAIN'S "HONEY GIRL" APIARIES, MOREAUVILLE, LA.
(Former Post Office Address—Hamburg, La.)

STILL ON THE JOB**BERRY'S RELIABLE BEES and SERVICE**

THE BEST TO BE HAD

Price list of our Package Bees with Young Queens

	2-lb. Pkgs. Each	3-lb. Pkgs. Each	4-lb. Pkgs. Each
1 to 10	\$2.10 each	\$2.75 each	\$3.25 each
10 to 25	2.00 each	2.60 each	3.15 each
25 to 100	1.95 each	2.55 each	3.10 each
100 up	1.80 each	2.35 each	3.00 each

Queen Bees 60c each

Pure Three-banded Italian Bees and Queens. We guarantee safe arrival, pure mating, prompt shipment, no disease and unexcelled quality. The best by test after forty-five years. Wings of queens we clip on request.

M. C. BERRY & CO.

Box 684

Montgomery, Ala., U. S. A.
Oldest Active Shipper of Package Bees

GASPARD'S QUALITY

Golden and Three-Banded Italian Queens and Package Bees for Spring 1941 delivery. Over 20 years' experience which assure you of prompt and efficient service, book your order now and reserve shipping date. 10% will book your order balance at shipping time.

PRICES AS FOLLOWS:

(Combless Packages with Queens)

2-lb. package with queen	\$2.00 each
3-lb. package with queen	\$2.50 each
4-lb. package with queen	\$3.00 each

(Comb Packages with Queens)

2-lb. package with queen and one extra frame of brood	\$2.25 each
3-lb. package with queen and one extra frame of brood	\$2.75 each
4-lb. package with queen and one extra frame of brood	\$3.25 each

25 to 49 packages 10% discount, 50 or more 15% discount.

Address — **J. L. GASPARD**

::

HESSMER, LOUISIANA

JENSEN'S BEES, QUEENS and SERVICE ARE DEPENDABLE

Book your orders as early as possible; it helps us to serve you. Our many years' service in American Beekeeping is your guarantee of satisfaction.

No Disappointments.

Packages with Select 1941 Queens.

Two Pound		Three Pound	
1- 25, -----	\$2.10	1- 25, -----	\$2.75
26-100, -----	\$1.95	26-100, -----	\$2.55
101-500, -----	\$1.80	101-500, -----	\$2.35

Loose queen packages add 10c per package.

Queenless packages deduct prices of queens listed below. Queens: Select Untested 1-25, 65c each. 26-100, 60c each. 101-500, 55c each.

For disease resistant stock make your reservations; supply limited.
All queens clipped FREE.

JENSEN'S APIARIES, MACON, MISS., U.S.A.

YOUR WAX WORKED INTO UNEXCELLED

Schmidt's Economy Foundation

as low as 10c per pound in 100 pound lots.

Satisfaction Unconditionally Guaranteed

Write for price list and shipping tags to

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PACKAGE BEES and QUEENS

Three-Banded Leather Colored Italians.

ONE CUSTOMER WRITES—

"I am pleased to say that your bees are far superior to the others received this spring. Your bees are darker but are gentle and easy to handle. It seems to me they are more hardy in our cold climate and build up earlier with far less supersedure."

You too, can get good results from our packages.

Two pound packages with queens . . .	each \$2.00
Three pound packages with queens . . .	each 2.50
Select Untested Queens . . .	each .70

Write for prices on lots from 10 to 1,000 packages.

THE CROWVILLE APIARIES, WINNSBORO, LA.

J. J. SCOTT, Proprietor

ROUTE 1

SOUTHERN MISSISSIPPI ITALIAN BEES & QUEENS

Package bees and queens reared on natural honeyflow. Real 3-Banded Italians—Good honey gatherers. Our service for 1940 was 100%—All orders shipped on time—No delay—Satisfaction guaranteed—Fast service—Light weight cages—Overweight packages—Young baby bees.

2 pound package with queen -----	1-10	11-50	51-100
	\$2.00	\$1.90	\$1.75
3 pound package with queen -----	2-60	2-40	2-25
		1-10	11-100
Select untested Italian queens -----		60 cents	50 cents

For queenless package deduct price of queen. For each additional pound of bees add 60 cents. Regularly inspected. No disease.

LUCEDALE APIARIES :: :: LUCEDALE, MISSISSIPPI

The BEST PACKAGE

to be had. About 75% baby bees, 25% teachers.

A good Italian queen raised right.

We try to make you money.

The VICTOR APIARIES, Shepherd, Texas

PURE ITALIAN BEES

If you are in the market for package bees in 1941, and want the best for your money, then you owe it to yourself to try our Pure Italian Bees. One single package will convince you this fall that you should have bought more.

2-Lbs. Bees & Young Laying Queen \$1.98
Extra Queens, each .60
10% discount to dealers.

J. P. CORONA, P. O. Box 124, Kenner, La.

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TIMESAVERS

by large scale operators when spacing frames in the rush of the honey flow.

Many satisfied users write they are very much pleased with our **Frame Spacers**.

Write for folder of information.

H. A. SCHAEFER :: OSSEO, WIS.
AGENTS WANTED TO DEMONSTRATE.



CAUCASIANS

Extra gentle, prolific, long-tongued, dependable workers—10% to 40% ahead of Italians. Get honey when others get nothing.

CARNIOLANS

Prolific at all times, very gentle, build up rapidly, make beautiful white combs, most excellent workers, colony records of 435 lbs. extracted each. Have supplied many state colleges and experiment farms in U. S. and Canada. My stock used in recent Iowa Exp. Sta. test. Better for northern and western states. Both quite disease resistant.

2-lb package with queen -----	\$2.50
3-lb. package with queen -----	3.25
10-fr. colony tested (1940) queen -----	10.00

Packages and colonies May 1st on. More convenient for eastern states and southern Canada. Less express charges, less net cost, less time in transit, arrive better condition. Queens introduced and free among bees if desired. Discounts on early orders. Ask for free paper.

ALBERT G. HANN, Glen Gardner, N. J.

Package BEES & QUEENS, Bright 3-Band Italian

Loose queen packages, 1 to 24, 2-lb. pkgs. \$2.40 each; 25 to 50, \$2.30 each. 3-lb. pkgs. 1 to 24, \$2.70 each; 25 to 50, \$2.60 each.

Caged queen prices as follows: 1 to 24, 2-lb. pkgs. \$2.10 each; 25 to 50, \$2.00 each. 3-lb. pkgs. 1 to 24, \$2.50 each; 25 to 50, \$2.40 ea.

Queens, 75c each; 25 or more, 65c each. We guarantee prompt delivery, safe arrival, satisfaction.
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STEVENSON'S LINE-BRED GOLDENS**

We GOLDENS are non swarming, the best of honey producers, and very gentle. This last characteristic has a double advantage: We do not ball our queens; result, practically no supersedure; and we take the sting out of beekeeping. We are really good.

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Italian Package Bees with Queens
2-lbs. \$1.50 3-lbs. \$1.90

For comb package add 50c to above price.
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Full weight. Safe delivery guaranteed.

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QUEENS**

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3-lbs. 2.50
Queens .60

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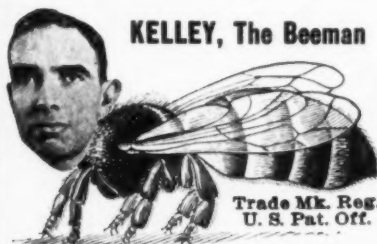
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ITALIANS**

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We give you—Prompt Service, Live Delivery, Overweight Packages, No Disease, Satisfaction Guaranteed.

BOOK YOUR ORDER NOW, RESERVING YOUR SHIPPING DATE

Prices—April 1, to June 1, 1941

	1-9	10-49	50 and over
2-lb. Package with Queen	\$2.20	\$2.05	\$1.90
3-lb. Package with Queen	2.85	2.65	2.45
4-lb. package with Queen	3.50	3.25	3.00
Queen each (Postpaid)	.65	.60	.55

For queenless package subtract price of Queen

Payable in U. S. Funds

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**SERVICE
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are not made by promises. It takes real quality packages and queens. We have them. Order early before all the best dates are taken.

	2-Lb. Pkgs.	3-Lb. Pkgs.	Queens
1- 25	\$2.10	\$2.70	\$.70
25-100	1.95	2.55	.65
100-up	1.85	2.45	.60

No disease. Safe arrival and satisfaction guaranteed.

J. M. Cutts & Sons, R. No. 1, Montgomery, Ala.

New 1941 Catalog Now Ready!

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Honey Extractors, 10 different sizes, styles and capacities, to meet any volume requirement.

Capping Melters, Storage Tanks, Strainers, Wax Presses, Uncappers and all equipment for handling honey.

Big Honey Production using our equipment show hired help extracting costs at less than 10c per 100 pounds. This is a factor to consider with low price honey.

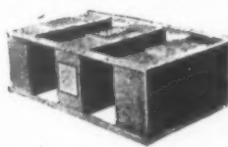
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Large Apiaries
Quality - Service
Honest Dealings



Health certificate with each shipment.

Canadian orders in U. S. Money.

BOOK YOUR ORDER NOW—DON'T WAIT.

10 Per Cent In Advance Books Any Open Shipping Date You Desire.

GENEROUS OVERWEIGHT PACKAGES WITH THRIFTY YOUNG LAYING QUEENS.

2 lb. Pkg. and Queen (Express Collect) 1 to 49, \$2.00 ea.; 50 or more, \$1.75 ea.

3 lb. Pkg. and Queen (Express Collect) 1 to 49, \$2.35 ea.; 50 or more, \$2.10 ea.

NOTE: Quotation on 4 pound and 5 pound and queenless packages on request.

Young Laying Queens (Selected) 60c each (postpaid)

(Air Mail—5c each extra per Queen)

SPECIAL! Young Laying Queens, Mar. 1st to April 75c each (postpaid)

NOTE: Please send names and addresses of beekeeper friends who would like to receive our circular. Thanks!

Eells Honey & Bee Co., Houma, La., U. S. A.

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CAUCASIANS — ITALIANS

For years we have been filling orders on time. If you have foulbrood try some of our Resistant Stock. One customer wrote he was going to requeen all of his 3000 colonies this year from this kind.

Early March Queens \$1.00 each. April Queens 60 cents each. 2-lb. package bees with queen \$2.25 each; 3-lb. package \$2.95 each.

Paying 30 cents a pound for beeswax in exchange for bees and queens, ship wax direct to Dadant & Sons, Hamilton, Illinois and write us about it. We do lots of trading, what have you? HONEY WANTED. Circular FREE. Truckers Headquarters Rio Grand Valley, on Progresso Highway.

BLUE BONNET APIARIES, R. 1, Box 70, MERCEDES, TEXAS

FOR SALE ITALIAN BEES AND QUEENS

Nothing But The Best

Bright Yellow and Three-Band

QUEENS, 50c each

1-lb. Bees with Young Queen . \$1.25

2-lbs. Bees with Young Queen 1.75

3-lbs. Bees with Young Queen 2.25

Discount 10 or more packages.

Send for them, they go.

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REEDSVILLE, WISCONSIN

MANUFACTURERS :: JOBBERS

Italian Bees and Queens

Also Caucasian Queens for 1941

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Write for prices.

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Shasta County, COTTONWOOD, CALIF.

Mountain Gray CAUCASIAN

Package Bees & Queens

Our sales of bees and queens in 1940 was the largest in any season. For honey gathering Caucasians are dependable, and for gentleness unexcelled, enough said. Be on time order now for April and May shipments.

Prices: Untested Queens 75c each. 2-lb. pkg. bees with queen, \$2.25 each. 3-lb. pkg. bees with queen, \$3.00 each. No disease. Service and bees warranted to please.

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American Bee Breeder's Record

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For Quality
and Service
WRITE
KOEHNEN'S APIARIES
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Get Running's BEES

And Get Honey—They Satisfy

The kind we use in our extensive Michigan Apiaries. All Italian Stock. Service guaranteed. Ask for our circular.

2-lb. pkg. with choice untested queen—\$2.45
3-lb. pkg. with choice untested queen—3.15
Choice untested Italian queen—.75
Choice tested Italian queen—1.50
10% discount on 50 or more;
15% discount on 500 or more.

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Bring you the Monthly News of Rabbit, Cavy, Small Stock, Poultry, Birds and other Pets.

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We breed only from the best imported queens we can buy, imported from Jan Strgar.

DEMAND THE BEST

Queens, each \$.75
3-lb. package 3.15
2-lb. package 2.45

Write for quantity prices.

ALLEN'S APIARIES, AUBURNDALE, FLORIDA

Three pound packages
of good

3-Banded Italians with

Young Resistant Queens

3½ pounds of bees go in each 3-pound package. Quick delivery to all Northern points.

My prices and packages will please you.

Drop me a card for prices

The North Texas Apiaries
Box 12, Farmersville, Texas

CARNIOLANS LEAD THE WAY

Queens introduced and clipped FREE—on request. Bees 100% disease free. Satisfaction—Service.

2-lb. Pkg. with Queens		Prices	3-lb. Pkg. with Queen	
1-24	\$2.10	Mated Queens \$.65	1-24	\$2.75
25-99	1.95	.60	25-99	2.55
100 and up	1.85	.55	100 and up	2.45

Carniolans resistant to E. F. B. and Sacbrood
EPHARDT'S HONEY FARMS, Torras, Louisiana

AN OLD SHIPPER — AT — A NEW PLACE

The past few years have been spent in trying different locations. Looking for one where queens could be reared and bees produced under natural conditions and honeyflows, both spring and summer. Something as near ideal as could be found in this part of the South. I have it at this new location.

One thousand colonies to draw from, experienced men to do the work. Men who own and operate bees in Michigan and know what is required on the receiving end. We have been continuous advertisers and shippers since 1914. Write for prices on Italian bees and queens, you will be surprised.

N. FOREHAND FLORALA, ALA.

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American Bee Journal—1 Year } In U. S. A.



ITALIAN BEES AND QUEENS

Queens raised on straight honeyflow. Queens backed by one of the best breeders of the South.

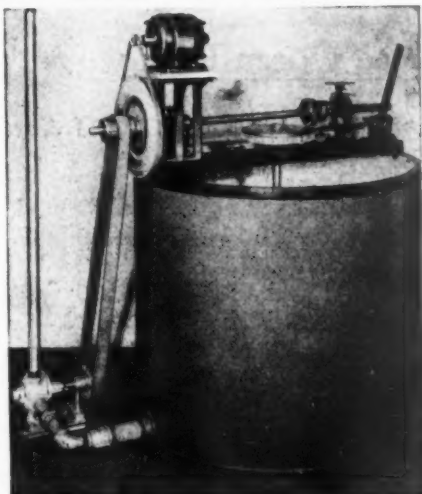
2 Lb. Pkg. with queen . \$1.90 express collect.

3 Lb. Pkg. with queen . \$2.40 express collect.

Queens each .50 postpaid. Satisfaction guaranteed.

BOND APIARIES " UNION, MISS.

30 and 50 Frame Radial Extractors



Will speed up and reduce extracting costs, especially important with low price honey.

Honey producers using our equipment have honey house extracting costs at less than 10c per 100 pounds, figuring labor at 40c per hour.

TEN different styles and sizes of extractors offered, to suit the capacity of your production, what ever it may be. Smaller sizes supplied for hand or motive power.

A. G. WOODMAN CO.

GRAND RAPIDS, MICH., U. S. A.

BEES • QUEENS • BEES

PRODUCTIVE, GENTLE, 3-BAND ITALIANS

Have shipped on date specified for several years. Plenty bees. Efficient help. Full weight in young, vigorous workers upon arrival at your station.

Several fast North-bound trains daily. Bees leave soon after caging. No disease here. Health certificate sent with each shipment.

2 pound Package with young Queen . . . \$2.00

3 pound Package with young Queen . . . 2.50

Select Untested Queen65

10 to 49 packages or queens, 10% discount. Satisfaction guaranteed.

W. E. PLANT

HATTIESBURG, MISS.

Bargain Book Offer

"ROMANCE OF THE HIVE"

By FRANK C. PELLETT

A delightful gift book about bees. Tells the story of the life and habits of the honeybee in popular manner. Give a copy to your friends or loan to your customers. This book has been highly praised by reviewers generally.

Beautifully printed and bound, freely illustrated with photos from life.

Published by the Abingdon Press of New York to sell at two dollars per copy. We have made a special purchase which

We offer special until April 15, only 80c postpaid.

AMERICAN BEE JOURNAL, HAMILTON, ILL.

Four Comb Nuclei

(OFFER 1100)

Two strong nuclei in each new painted, ten-frame hive body, each nucleus is with four combs bees, and hatching brood, honey and 1941 laying queen, \$3.15 each nucleus.

CAUCASIANS OR ITALIANS

Our hive bodies have a removable partition through the center, screen wire top and bottom. Queens are loose and laying, introduced 100 per cent on arrival. We ship rush orders. No disease. Safe arrival guaranteed.

Wm. Piefer & Sons
Gause, Texas

Grafted Nut Trees

Are far superior to seedling trees. We can supply Walnuts, Hickories and Pecans.

Ask for catalog.

LINN COUNTY NURSERIES
CENTER POINT, IOWA

PACKAGE BEES and QUEENS

Three-Banded Italians

We can fill your order promptly. Prices as follows:

1 to 4 pkgs. \$2.25
5 to 9 pkgs. 2.10
10 to 25 pkgs. 2.00

For 3 lb. packages, add 50c.
Queens 50c each, 50 or more 40c each.

DUPUIS APIARIES
Box 152 Breaux Bridge, La.

MILLERS CAUCASIANS

75¢



THREE RIVERS TEXAS

\$1.60 2-Lb. Package Italian BEES & QUEENS \$1.60

Postage not included

Bright Queens 50c each postpaid

E. A. CASWELL

4019 Piety St., Rt. 4, New Orleans, La.

ORDERS WANTED

2-Lb. Pkg. with Queen \$2.00
 3-Lb. Pkg. with Queen 2.50
 Young Laying Queens .60

High Quality—Dependable Service.

J. F. McVAY :: JACKSON, ALABAMA

The
GOAT WORLD

OFFICIAL ORGAN OF THE
 American Milk Goat Record Association

Oldest and largest Milk Goat magazine published. Broadest circulation. Articles by best authorities. Subscription rate: one year \$2.00; three years \$4.00; five years \$6.00. Sample copy 20 cents.

ADDRESS:

The Goat World, Vincennes, Indiana

DEFENSE

That's what we are all looking forward to, so why not try our hardy prolific strain of . . .

Disease Resistant

Italians obtained thru years of scientific experiments. A strain suitable for northern climatic conditions.

Why don't **you** have defense in your hives?

2 Lbs. Bees and Queen, \$2.00
 (Combless)

2 Lbs. Bees and Queen, \$2.25
 (On Standard Comb)

Additional lb. bees on comb, 50c

15 to 49, 10% discount. 50 up, 15%

Satisfaction :: Quality
 Health Certificate

B. J. BORDELON
 MOREAUVILLE, LA.

Italian Package Bees and Queens

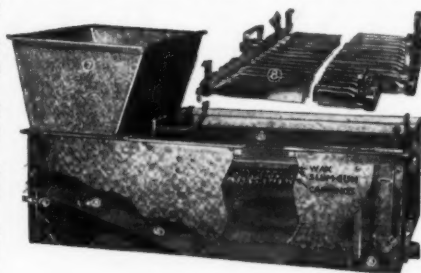
Try Our Introduced Queen Package

We guarantee these queens introduced 100%. Our 31 years' experience with bees insures you highest quality.

	With Queen	1 to 49	50 or more
2 pound packages	-----	\$1.65	\$1.60
3 pound packages	-----	2.15	2.10
4 pound packages	-----	2.65	2.60
5 pound packages	-----	3.15	3.10
Untested queens	-----	.55	.50
Tested queens	-----	1.10	1.00

Packages with the queen caged same price. For comb packages add 40c to above prices for each comb. For queenless packages deduct price of queens in quantity from packages quoted above.

D. C. JACKSON APIARIES :: FUNSTON, GEORGIA, U. S. A.



Brand Capping Melter

Success is due to the under the Melter Grid feeding. Send for printed matter.

Have decided that I would like to buy one of your Senior Brand Capping Melters. I used Edwin Stewart's last year and it worked fine.
 W. X. Johnson,
 Port Hope, Mich.

Manufactured By

S. P. HODGSON & SONS
 New Westminster, B. C., Canada

A. G. WOODMAN CO.
 Grand Rapids, Mich.

SUPERIOR HONEY CO.
 Ogden, Utah

We have been producing honey for the past 17 years and we believe we have reared a strain of bees second to none for honey production. This is the strain of
THREE-BANDED ITALIAN BEES
 we will be ready to ship April 1st.

2-Pound Package with queen! . . . \$1.95
 3-Pound Package with queen . . . 2.45
 Queens50

Raceland Bee & Honey Co. ❖ Raceland, La.

FOUNDATION

It is an absolute necessity in a well managed bee yard. It insures perfect combs in the brood chamber and eliminates drone cells to a minimum.

In producing comb honey, thin super foundation helps the bees to do expedient work resulting in honey that commands the highest market price.

Send us your wax to be worked into foundation at the lowest possible price.

We carry a complete line of beekeepers' supplies. Send for price list.

GUS DITTMER COMPANY, ❖ AUGUSTA, WIS.

YASSUH-REEE

THERE'S A COMFORTABLE ECONOMICAL

GILBERT HOTEL

IN EACH OF THESE 36 CITIES

Hotels located in resort cities slightly higher rates during season...Special rates made to families.

IN FLORIDA

Jacksonville
"DeSoto" "Gilbert"
"Bradford Apt. Hotel"
St. Augustine
"Gilbert-Plaza"
Daytona Beach
Kissimmee
"Gilbert-Arcade"
Tampa
St. Petersburg
West Palm Beach
Pensacola
Gainesville
Ft. Lauderdale
"Gilbert-Maryland"
Sanford
Lakeland
"Gilbert-Washburn"
Key West
"Gilbert-Jefferson"
Tallahassee
"Gilbert Dixie"
Palatka

IN OTHER STATES

Norfolk, Va.
Christiansburg, Va.
"Gilbert's Virginia Inn"
Indianapolis, Ind.
Washington, D. C.
Chattanooga, Tenn.
"Gilbert-Ellis"
Knoxville, Tenn.
"Gilbert-Stratford"
Birmingham, Ala.
Mobile, Ala.
"Gilbert St. Andrew"
Atlanta, Ga.
Athens, Ga.
Augusta, Ga.
Bainbridge, Ga.
Savannah, Ga.
Douglas, Ga.
Griffin, Ga.
"Gilbert-Imperial"
Waycross, Ga.
Louisville, Ky.
Baltimore, Md.
"Altamont"
Utica, N.Y.

2000 ROOMS

From \$1.00
DETACHED BATH

From \$1.50
PRIVATE BATH

GILBERT HOTELS GIVE MORE FOR YOUR MONEY

35 OF THEM ALL NAMED "GILBERT"

KNIGHT'S Package Bees & Queens

Three-banded leather colored Italians.
The best honey gatherers.

Prices Including Queens

	2-lb. Pkg.	3-lb. Pkg.	4-lb. Pkg.	5-lb. Pkg.
1 to 9	\$2.10	\$2.70	\$3.30	\$3.90
10 to 24	2.00	2.60	3.20	3.80
25 to 99	1.95	2.55	3.15	3.75
100 up	1.80	2.35	2.95	3.55

Queenless packages, deduct 65c

Select young laying queens 75c each. 10 or more 65c each. All queens guaranteed mated pure. Safe arrival and satisfaction guaranteed.

JASPER KNIGHT
HAYNEVILLE, ALABAMA

Results Count Most!

Bees raised under conditions ideal for high grade stock, at picturesque Picayune, where little artificial stimulation is needed, so both bees and queens are raised under natural conditions. Breeding stock selected for prolificness and honey production; for gentleness and appearance. Four main express and mail trains each day to carry your bees quickly to you. Four per cent extra queens with package orders. **AIRMAIL QUEEN SERVICE** gets needed queens to you by fast plane to any part of the U. S. or Canada, **at no extra cost to you.**

These prices will be in effect to late May when they will be lowered. Should good weather or other factors enable us to lower prices before that time, we will refund any amount above quotation at exact time bees are shipped. Order now. No early booked packages will be shipped late.

	2-lb. pkg. & queen	3-lb. pkg. & queen
1 to 5	\$2.20	\$2.85
5 to 25	2.10	2.75
25 to 100	1.95	2.55
100 or more	1.80	2.35

Queens, 1 to 10, 70c; 10 or more, 60c
15% booking deposit required. Balance 10 days before shipping date. 2% discount for cash in full with order

DANIELS APIARIES :: PICAYUNE, MISS.

ROOT SERVICE FROM

CHICAGO

What is important Now? PRODUCTION

People everywhere will want foods. Let us produce—then contribute to the large sales promotion program and keep honey high on the crest of large demand. This is our opportunity to greatly enlarge the use of honey.

Will you profit? Are you prepared with knowledge of better beekeeping and with needed supplies?

Root quality supplies will be cheapest in long use. Root service will respond quickly to your needs.

Write us about your needs. Let us quote on your list. Ask for Root's 1941 catalog.

A. I. ROOT CO. of CHICAGO
224 WEST HURON STREET
CHICAGO, ILLINOIS

BRAZOS VALLEY APIARIES
CAMERON, TEXAS

PACKAGE BEES

BRAZOS VALLEY APIARIES
CAMERON, TEXAS

Your choice of queens . . . Italian, Caucasian, Carniolan

A quarter of a century in the same locality, in the same business, with many of the same customers is my record.

From one package to a truckload will receive my prompt attention.

My motto through the years: I will expect to do business with you again.

2-lb. package bees with young select laying queen, 1 to 5, \$2.00 each; 6 or more, \$1.75 each.

3-lb. package bees with young select laying queen, 1 to 5, \$2.50 each; 6 or more, \$2.20 each.

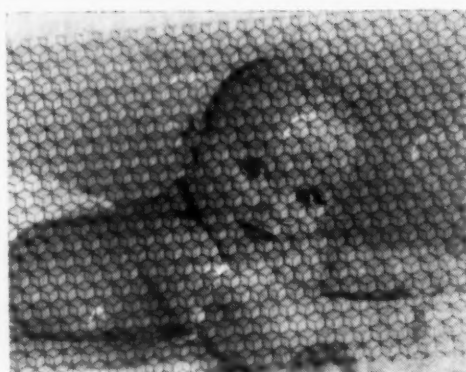
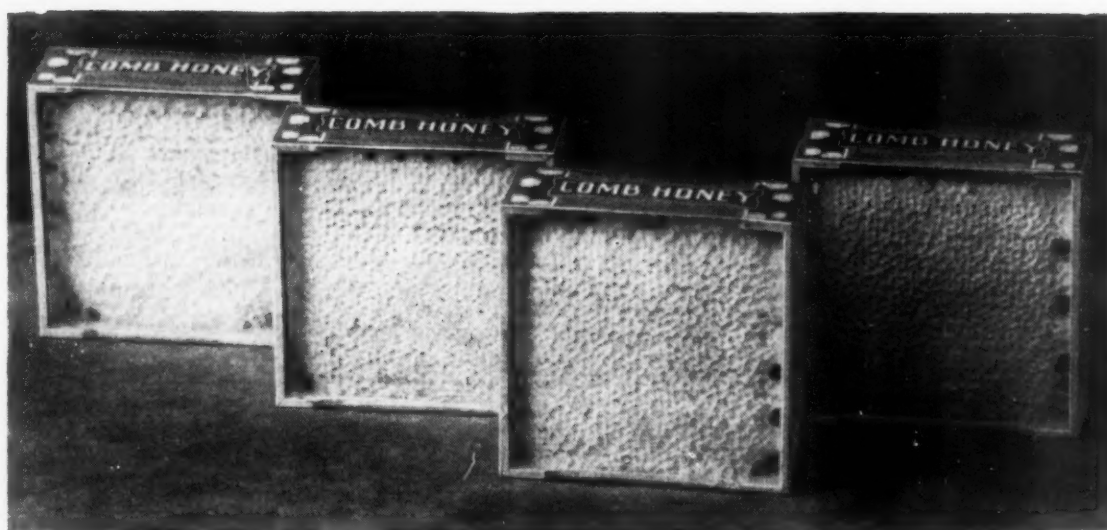
"YOU CAN PAY MORE BUT YOU CANNOT GET BETTER BEES OR FAIRER TREATMENT"

H. E. GRAHAM

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CAMERON, TEXAS



Dadant's Surplus Foundation Makes Choice Honey

Just the kind of honey you want on your own table, honey with a delicate center, a fine taste, fragrant, pure. Only the choicest, light colored beeswax. Each sheet carefully inspected for defects, assembled between tissue, packed in dustproof cartons; every sheet in every pound just alike.

Dadant & Sons :: Hamilton, Illinois

GENUINE ITALIAN PACKAGE BEES AND QUEENS

On The Same Old Basis — QUALITY — SERVICE — SATISFACTION

2-lbs. Bees, one Standard comb with Queen	\$2.25	Additional pound of bees or comb	\$.50
2-lbs. Bees, one Modified Dadant comb with Queen	2.45	Queens, each	.50
2-lbs. Bees with Queen [combless]	1.85	Queens introduced without extra cost upon request.	

E. J. BORDELON APIARIES

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Box 33

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MOREAUVILLE, LA.

CROP AND MARKET REPORT

Compiled by M. G. DADANT

For our March report we asked reporters to answer the following questions:

1. Conditions of bees?
2. Honey plant and moisture conditions?
3. Will all 1940 crop be moved by spring?
4. Any strengthening of carlot or retail prices?
6. What causes our low honey market?

Condition of Bees

Quite contrary to last year, bees are coming through a moderate winter in excellent condition. For this reason, perhaps more stores than usual will be consumed, but undoubtedly colonies went into the winter with much more stores and with younger queens and younger bees than they had a year previously.

Only in a few instances do we find reports of conditions being not as good as a year ago. One of these reports comes from Alabama, and others come from Michigan where the prolonged crop last year may have reduced the young force of bees and the vitality of queens.

In northern Wyoming and Montana there is some question whether the bee conditions are as satisfactory as they should be. In all other sections of the country, condition of the bees is, we would say, better than the average.

Moisture Conditions

Again we find particularly encouraging reports as most plant and moisture conditions are much better than a year ago, with a heavy blanket of snow overlying the entire north country, at the time this is written, and rains farther south, which have been satisfactory, at least as far as topsoil is concerned. We do not believe the moisture has been sufficient to make for much subsoil dampness yet.

We find reports of dry conditions in western South Dakota, northern Wyoming, and Montana, and a few reports of dry conditions in Alabama and Georgia.

We call our readers' attention to conditions in California. There has been more rain there than for a number of years, and some reporters are indicating that, with ordinary conditions, there should be a bumper crop in California this year. At least all present indications would so point.

Will All Honey Move?

Practically all sections of the country report that all white honey should move, the only question being whether some amber honey might be left in some sections. The questionable sections were areas in New York producing buckwheat honey and the amber honey-producing areas of Arizona, New Mexico, Nebraska, Utah, and Colorado. Some reports from Colorado were to the effect that not even the white honey would move. In the southeastern sections, all honey has already moved and producers are waiting impatiently for the new crop to supply their customers again.

Is Market Strengthening?

Generally, reports are that there is very little strengthening in the honey markets compared to one or two months ago. However, we do hear occasional reports of a strengthening in the light honey market, and we know this is true because prices in one of the central western cities have advanced from one-fourth to one-half cent per pound over what they were earlier in the

season. There seems to be very little light honey available and, of course, considerable time has yet to elapse before new white honey is in; so it appears as though white honey would sell readily, all there is of it, at the present price. But a few producers are holding for what they think is a fair price of from 5 cents to 5½ cents per pound. We question very much whether all amber honey will move unless there is a letup on the restriction on exports which would undoubtedly clear up these amber lots in a short time.

Cause for Low Honey Markets

One reporter significantly said he had been looking for the cause of low honey markets for fifty years; so we beekeepers should not become discouraged. He has gone through fifty years of similar conditions, and perhaps we can stand a few more.

However, most reports indicated that there is a general feeling that disorganized markets is the chief cause of low prices, for several reasons. One is that honey, which is not a staple, is only occasionally called for, because other sweets are more widely advertised and sell at a lower figure. The low price of sugar also has some backers. Many reporters stated that producers have no organized way of even harvesting the honey, that they do not pack it in a generally satisfactory form, that no effort is made to hold and feed the honey into the market or to base price on honey costs or upon what it should bring, that there is, in fact, a complete disorganization. (The buyers undoubtedly are in a position and have been in a position to take advantage of this disorganized situation and naturally buy at the lowest price they can.)

The lack of European market was mentioned in a number of instances and undoubtedly has had something to do with the lack of demand for the amber honey which are going at ridiculously low prices. The European markets used to take many carloads, particularly of amber honeys.

Strangely enough, the reason which we have heard chiefly heretofore—namely, the price war between the packers—was mentioned in a comparatively few instances although very vehemently.

There was a tendency on the part of the reporters, who are also producers, to lay the blame directly back upon the producers and beekeepers themselves for not trying to cope with the situation by holding their honey at a fair price, or by co-operating in distribution, or by co-operating in advertising which would create a demand by consumers which would clean up the honey without any regard as to whether packers were cutting prices, or keeping secret agreements, as one of our reporters suggested.

All in all, there is no question but that the disorganized condition of the honey market makes for low prices, and such disorganization is caused probably by heavier production than we have had in years previously, combined with no particularly heavy efforts to influence consumers to use honey, whereas the advertisers of other products are quite busy in this field.

We, however, feel that the new advertising campaign will have some effect on the 1941 production and sale of the crop.

Three or four of our reporters laid complete blame upon Roosevelt and the New Deal. Their argument was that all farm products were in the "doldrums," except those which were beneficially elevated by the farm program. They saw no reason why honey and other similar products might not have a similar "shot in the arm."

WANTED--Extracted Honey All Varieties
Send samples and delivered prices to
JEWETT & SHERMAN COMPANY
Cleveland, Kansas City and Brooklyn.

HONEY WANTED Cars and less than cars
Mail Samples
C. W. AEPPLER CO., Oconomowoc, Wisconsin

EXTRACTED HONEY Bought and Sold
Iverson Honey Company
201 North Wells St., Chicago
Reference: First National Bank of Chicago

THE MARKET PLACE

BEES AND QUEENS

PACKAGE BEES AND QUEENS. Service. Satisfaction. Sternberg Bros., Lockhart, Texas.

NORTHERN California package bees and queens. First quality, three-banded Italians. Geo. E. Smith, Rt. 2, Yuba City, Calif.

UNEXCELLED QUALITY Italian bees and queens. Bulk or packages. Large or small quantities. Fast service, fair prices. Satisfaction guaranteed. Sowhatsee Apiaries, Hilton, Ga.

CAUCASIAN PACKAGE BEES. Reduced price but same high quality. Long tongued, gentle, prolific, dependable workers. 2-pound package bees with queen \$2.00; 3-pound with queen \$2.50. Safe arrival and satisfaction guaranteed. P. B. Skinner Bee Co., Greenville, Ala.

ITALIAN QUEENS, package bees. Will trade for supplies or honey. Give 29c for clean wax in trade, any amount, delivered Illinois or Iowa. Homer W. Richard, 1411 Champ-nolle, El Dorado, Ark.

GOOD PACKAGE BEES and QUEENS for 1941. We have supplied leading beekeepers for many years and of late years have not found it necessary to advertise a whole lot even though we have one of the largest, best equipped queen and package establishments in the South. If you want the utmost satisfaction from your packages and queens write me. Three banded Italians only. No disease. H. C. Short, Fitzpatrick, Alabama.

CAUCASIANS—Untested Queens, 75c: 10, 65c. 3 lb. pkgs. with queens \$2.50. Miller Brothers, Breeding nothing but Caucasians, Three Rivers, Texas.

PACKAGES WITH INTRODUCED LOOSE QUEENS. I guarantee against premature supersedure. Increased output allows reduced prices. Free folder. A. O. Smith, Mount Vernon, Ind.

BOOKING ORDERS for 2 and 3 frame nuclei, also queens. Rt. No. 1, Box 227A, St. Petersburg, Florida.

FOR SALE—Young queens early in March. Write for prices. Gulf Coast Bee Co., Schriever, La.

OVERWEIGHT PACKAGES and young queens at a price you can afford to pay. I can fill your early orders. D. P. Green, Deland, Fla.

OFFERING for the first time disease resistant bees. Each package headed with a queen daughter of government secured stock. Prices reasonable. Eggleston Apiaries, Diamond, La.

THREE BANDED Italian bees and queens. Extra good honey gatherers and gentle to handle. Satisfaction guaranteed. Alamance Bee Company, Graham, North Carolina.

ITALIAN QUEENS from government resistant stock. Tested for honey production, gentleness, etc. Each 60c. Quantity discounts. Also packages. A. W. Nations, Donna, Texas.

ITALIAN BEES AND QUEENS. 2 lb. packages with queens \$2.00; 3 lb. packages with queens \$2.50. Queens 50c each. Your order shipped within twenty-four hours after received. No disease. Planteraville Apiaries, Planteraville, Miss.

CAUCASIAN ITALIAN bees and queens. 2 pound packages \$2.00; 3 pound packages \$2.50. If you have never used our Caucasian bees try them and be surprised. Oregon Bee Co., Route 1, Box 296, Salem, Oregon.

PACKAGE BEES and QUEENS from Nashville, Tenn. Save time and money. Three band Italians, no disease. N. S. Gladish, 3315 Hobbs Rd.

Copy for this department must reach us not later than the fifteenth of each month preceding date of issue. If intended for classified department, it should be so stated when advertisement is sent.

Rates of advertising in this classified department are seven cents per word, including name and address. Minimum ad, ten words.

As a measure of precaution to our readers we require reference of all new advertisers. To save time, please send the name of your bank and other reference with your copy.

Advertisers offering used equipment or bees on combs must guarantee them free from disease, or state exact condition, or furnish certificate of inspection from authorized inspectors. Conditions should be stated to insure that buyer is fully informed.

GOLDEN ITALIAN QUEENS golden to the tip, 50 cents. Loehrs Breeding Farm, Caldwell, Texas.

CARNIOLAN and CAUCASIAN package bees, April and May delivery. 2 lb. pkg. \$1.75; 3 lb. pkg. \$2.25. Untested queens 50c each. Safe arrival. Tillery Brothers, Rt. 4, Greenville, Ala.

HONEY FOR SALE

CHOICE EXTRACTED CLOVER HONEY in 60's. R. C. Bish, Successor to Moore Apiaries, Tiffin, Ohio.

HONEY FOR SALE—We buy and sell all kinds, carloads and less. The John G. Paton Company, Inc. 630 Fifth Avenue, New York, N. Y.

FANCY WHITE TUPELO honey. Highest quality guaranteed. In barrels and 60's R. R. Davis, Wewahatchka, Florida.

TWO TONS shallow frame chunk comb. Unlimited supplies of white and amber extracted and comb. Dillon & Sons, Adrian, Mich.

EXTRA NICE CLOVER extracted honey in new 60 lb. cans \$3.75. Elmer Kommer, Woodhull, Ill.

WHITE CLOVER COMB \$3.00 case; amber \$2.50. Clover extracted 7c; amber 5½c. Buckwheat 5½c. C. B. Howard, Geneva, N. Y.

WHITE CLOVER 5½c; buckwheat, amber 5c. F. O. B. Honey House. Walter Rink, Port Hope, Michigan.

FANCY TUPELO HONEY for sale, barrels and 60's. Marks Tupelo Honey Co., Apalachicola, Florida.

GOOD EXTRACTED CLOVER in 60's 6c. Amber 5½c. H. G. Quirin, Bellevue, Ohio.

FOR SALE—Fancy, well ripened, white sweet clover honey in 60-lb. cans by the case or carload. Extra good quality. Dadant & Sons, Hamilton, Ill.

FOR SALE—Fancy Iowa white clover extracted honey. Kalona Honey Co., Kalona, Iowa.

CHOICE Michigan Clover Honey. New 60's. David Running, Fillion, Michigan.

COMPLETE LINE comb and bottled honey. Pure clover. Also packed in 5's and 60's. Central Ohio Apiaries, Inc., Millersport, Ohio.

ORANGE, Palmetto and Mangrove honey in new sixties. Peter W. Sowinski, Fort Pierce, Florida.

FOR SALE—Northern white extracted and comb honey. M. W. Cousineau, Moorhead, Minn.

HONEY FOR SALE—All kinds, any quantity. H. & S. Honey and Wax Company, Inc., 265-267 Greenwich Street, New York.

HONEY PACKERS—Write us for prices on carload lots of California and Western Honey. We stock all varieties. HAMILTON & COMPANY, 1360 Produce Street, Los Angeles, California.

FINEST WHITE CLOVER extracted. Liberal discount, by truck at our place. N. B. Querin, Bellevue, Ohio.

WE BUY AND SELL ALL KINDS COMB AND EXTRACTED CARLOADS AND LESS. H. BLITZ, P. O. BOX 3452, PHILADELPHIA, PA.

HONEY FOR SALE—Any quantity, all varieties. B-Z-B Honey Company, Alhambra, California.

HONEY AND BEESWAX WANTED

ALL GRADES extracted honey wanted. Bee supplies and honey containers for sale. Prairie View Honey Co., 12243 12th Street, Detroit, Michigan.

CASH for all kinds of honey. Especially interested in beeswax, amber honey and good comb. Dillon and Sons, Adrian, Mich.

WANTED—Chunk comb and extracted honey. For sale good used 60 lb. cans. Clover Bloom Honey Co., Oklahoma City, Okla.

CASH FOR YOUR WAX the day received. Write for quotations and shipping tags. Walter Kelley Co., Paducah, Kentucky.

WANTED—Large quantities of chunk comb in shallow frames; also section honey. Central Ohio Apiaries, Inc., Millersport, Ohio.

WANTED—Carlots honey; also beeswax, any quantity. Mail samples, state quantity and price. Bryant & Cookinham, Inc., Los Angeles, California.

FOR SALE

FOR SALE—We are constantly accumulating bee supplies slightly shopworn; odd sized, surpluses, etc., which we desire to dispose of and on which we can quote you bargain prices. Write for complete list of our bargain material. We can save you money on items you may desire from it. Dadant & Sons, Hamilton, Illinois.

FOR SALE—We accumulate bee supplies at our warehouses, slightly shopworn and fully serviceable, but discontinued for lack of sale. Write for complete bargain list. G. B. Lewis Company, Watertown, Wisconsin.

FOR SALE—Bee supplies. Will trade for comb and extracted honey or beeswax. JOHN HARNACK & SON, McGREGOR, IOWA.

STEAM BOILER, steam cappings melter, Markle extractor, new 100 gallon tank. Clyde Fisher, Joliet, Montana.

ONE TO 15 COLONIES, 8-fr. 2-story, shallow extracting frames, supers. Fine condition. Make offers liberal. Elderly woman must reduce work. Route 1, Box 204B, Ridgewood, N. J.

100 10-frame colonies and equipment. No disease. Best location, Willamette Valley in Oregon, 50 miles to second crop Coast Range fireweed. Write Troy Nance, Albany, Oregon.

FOR SALE—Twenty-five colonies of bees, also equipment for same. Free from disease. E. B. Armstrong, R. F. D., Slingerlands, N. Y.

200 2-story 10-frame colonies of bees. Route 1, box 227A, St. Petersburg, Florida.

200 COLONIES Italians. Excellent equipment. Northern Minnesota sweet clover pasture. Box 12, American Bee Journal.

100 or 400 COLONIES bees, with equipment. Plenty honey. No disease. Clyde Cobb, Belleville, Ark.

FOR SALE—Honey heating outfit of tank (new) for ten sixties with cover and gate, including angle iron stand. Four burner kerosene stove (excellent condition). Will sell at sacrifice for \$35.00. F. E. Valesh, Couderay, Wisconsin.

FOR SALE—200 colonies of bees, ten-frame. Very reasonable. Also eight-frame extractor, foundation, equipment for shallow comb honey, etc. J. Semon, 15001 Upton Avenue, Cleveland, Ohio.

FIVE ACRE irrigated farm in Rio Grande Valley. Half in orange orchard. With 30 colonies bees. Fine place for anyone who wants a little place away from ice and snow. A. W. Nations, Donna, Texas.

450 COLONIES bees, extracting equipment. Modern home. Black Hills honey. Ernest W. Fox, Fruitdale, S. Dak.

QUITTING BEES. Sell 40 hives, 100 supers. Modified Dadant size. No bees or comb. Inspected clean. Alvin Griffin, Stanwood, Michigan.

TWENTY COLONIES with complete equipment at sacrifice price. Rev. Tessmer Hadar, Nebraska.

SUPPLIES

THE ONLY COMPLETE LINE of wax rendering equipment ever offered—the "Perfection" line. A size and type suitable for every commercial beekeeper. Write for descriptive circular. Robinson's Wax Works, Mayville, N. Y.

WE MAKE special comb honey equipment. Air-Way Supers, Foundation Fastening Boards, Cutting Boxes, etc. Carl Killian & Sons, Paris, Ill.

YOUR WAX WORKED into quality medium brood foundation 15c lb.; 100 lbs. \$10.00. Thin super 22c. Fred Peterson, Alden, Iowa.

COMB FOUNDATION at money-saving prices. Plain, wired, and thin section. Wax worked at lowest rate. Combs and cappings rendered. Robinson's Wax Works, Mayville, N. Y.

CUT COMB HONEY cartons and equipment. Get our prices on everything for cut comb honey. James Hilbert, Traverse City, Mich.

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LARGE CASH SAVINGS can be made by letting us work your wax into either wired or plain foundation. —Large independent factory manufacturing a complete line of bee supplies including extractors, etc. Selling direct saves you the agent's profit. Quick shipment from large stock. Large free catalogue explains everything. Walter T. Kelley Co., Paducah, Kentucky.

WANTED

WANTED—Book "Fifty Years Among the Bees" by Miller. Van Allen Gerhard. Drums, Pa.

WANTED—Prices on 100 2 or 3-lb. packages and queens, 100 2-frame nuclei and queens. Cash or trade supplies. Honey Brook Apiaries, Coxsackie, N. Y.

WANTED—Three banded Italians, in Modified hives, and extracting supers, on Dadant's Crimp-wired foundation. Free from disease. State exact condition. Clyde Roberts, Mooresville, Mo.

SEEDS

NURSERY CATALOG—70 hardy fruit varieties, also basswood, Vikla Nurseries, Lonsdale, Minnesota.

8 BASSWOOD seedlings, or 10 RUSSIAN OLIVE,—2 foot, or 6 PINK HONEY-SUCKLE shrubs, or 8 JAPANESE BARBERRY, or 25 CARAGANA (hedging)—1 foot, or 3 transplanted BASSWOOD 3 foot, or 2 transplanted PUSSY WILLOW (early spring pollen) 3 foot,—nectar producers. Postpaid for \$1.00 bill. Checks require 10c exchange. Local Lewis-Dadant dealer. Nicollet County Nursery, St. Peter, Minn.

SEEDS of Anise-Hyssop, figwort, wingstem, catnip, golden cleome and other honey plants, fifteen cents per packet or eight for one dollar postpaid. Melvin Pellett, Atlantic, Iowa. Circular free.

SAINFOIN, best hay and honey plant of much of Europe. Because of war conditions, seed is scarce and hard to secure. We supply a limited amount at one dollar per pound, postpaid. American Bee Journal, Hamilton, Illinois.

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WANTED—Experienced queen breeder, also helpers for caging packages. J. E. Wing & Sons, Cottonwood, Calif.

WANTED—An experienced man for beekeeping, also helper. Fred D. Lamkin, Union Springs, New York.

WANTED—Experienced young man of good habits to work with bees in California for coming season. Give full particulars when replying, including wages expected. Al Winn, Rt. 2, Petaluma, Calif.

WANTED—Dependable beeman. Board and room furnished. State experience, wages wanted, age, weight and habits. E. Schlemmer, Edgar, Montana.

WANTED—Employment in apiaries. Plenty of experience. R. W. Harris, Rt. 6, care Clois Glisson, Paducah, Ky.

WANTED—Active young man of good habits to assist in commercial apiaries. Give all particulars in first letter. Harry W. Beaver, Troy, Pa.

YOUNG BEEMAN to work in commercial apiaries. Elton L. Lane & Son, Trumansburg, New York.

WANTED—Beekeeper to work my 250 colonies of bees on shares. Paul Madison, Winnebago, Nebr.

WANTED—Helper for Northwestern Minnesota apiaries. Give age, experience, reference, wages expected. Must be hustler. E. E. Salge, Weslaco, Texas.

WANTED—Helper, commercial apiaries. Room, board furnished. Give particulars, age, experience, wages. Woodland Apiaries, Howell, Michigan.

WANTED—Experienced man, capable of managing apiary. Dr. Clark, Newell, S. Dak.

MARRIED MAN with fifteen years' experience as commercial beekeeper wants work. Will consider any place or proposition. John Osgood, Rt. 2, Box 745, Grants Pass, Oregon.

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**Combless Packages and Queens
PURE THREE-BANDED ITALIANS ONLY**

Forty-nine years' experience assures you of the best service and finest stock.

We guarantee full weight packages of young, thrifty, three-banded Italian bees and safe delivery.

Thrifty bees will build powerful colonies in time for your honeyflow. They are guaranteed to please.

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Queens, each60

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BEEKEEPERS ITEM, San Antonio, Texas

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2-lbs. bees with queen \$1.90 ea.

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We guarantee you live delivery, full weight packages of young bees, young queens, satisfaction and no disease.

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What Will Your Money Buy?

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A queen of the highest quality.

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Our bees have been tested and approved by buyers throughout the United States & Canada.

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We believe experience to be a good teacher. With 20 years' experience in queen rearing and package shipping, with 6,000 nuclei and 3,000 colonies to draw from, we are prepared to give you quality bred queens and bees.

Can Furnish Light or Leather Colored Italian Queens and Bees.

We furnish health certificate with all shipments, prompt delivery, full weight packages and young queens. We guarantee safe arrival and satisfaction.

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(Write for prices on larger orders.)

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Be wise--seek quality as well as price when considering your source of package bees and queens this season.

Quality breeding in our own interests as large honey producers in California and Nevada, has given us, last season, the largest honey crop that we have ever produced.

This is the same quality that you will get at a fair price when you order ITALIAN or CAUCASIAN package bees and queens from . . .

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Try our full weight packages of young bees and queens and we are positive that you will be satisfied. We ship comb or combless packages with either loose or caged queens.

2-lb. Packages with queen . **\$2.00**
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We guarantee safe arrival and no disease.

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Three-band improved quality Italians, gentle, prolific, build up quick, disease resistant; fill your hives with bees, fill it with honey, none better. Our bees and queens will suit you and our prices too. Thousands of satisfied customers. Get our booklets.

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Place your order where you get QUALITY in the queen.

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Untested Queens, each .65

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on the finest bee supplies and foundation made. Send for our price list. Ship us your old combs and cappings for rendering into wax. Let us work your wax into comb foundation. This means quite a savings to you. We are always buying beeswax, also extracted or comb honey. Write us . . .

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Garon's A. F. B. "RESISTANT" Stock

Our regular strain has been improved. Another year of careful selection has made this possible.

Complete co-ordination of our Northern and Southern facilities will assure the perpetuation of resistant characters in our Resistant Stock. Our position in this regard is unique.

Valuable time is saved to our customers by our promptness in making delivery and substantial packages. Buy fine quality bees plus utmost service.

PRICES:	2-lb. pkg. with queen	Single Queen	3-lb. pkg. with queen
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26 to 99	1.90	.65	2.55
100 or more	1.85	.60	2.50

Add 10c per package or queen for "Resistant" Stock.

GARON BEE COMPANY, DONALDSONVILLE, LA., U. S. A.

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with the packages and queens you purchased last season? Was the service as good as you have a right to expect? **IF NOT**, (get your check book)

	2-lb. Pkg.	3-lb. Pkg.	Queens	(No disease. Safe arrival and satisfaction guaranteed.)
1 to 25	\$2.15	\$2.85	\$.70	
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Used in every state of the Union

Telling you how good they are is no proof—Ask your neighbor or the man who owns them, SEE FOR YOURSELF.

QUEENS, 75c each

2-lb. package with queen-----\$2.20

3-lb. package with queen-----2.85

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You Can't Go Wrong
With A-B-J LABELS

They sell honey and are priced right.
Send for complete catalog.

American Bee Journal :: Hamilton, Ill.

Italian Bees and Queens

Member of
California Bee Breeders Association.
Write for circular. No disease.

Carl Larsen, P.O. Box 404, Colusa, Calif.

THE POSTSCRIPT

William Innamen sent us seed of *crotalaria* from Mississippi last spring for planting in our test garden. The plants made a good growth but our season is too short for they were just coming into bloom when the October frosts killed them. The yellow flowers are quite ornamental but the forage is not palatable to livestock. The only use of the plant is for a cover crop or a soil building legume to be turned under. It is largely grown for this purpose in parts of the South.

John Connor, of Caldwell, New Jersey, comments on the Kent white clover as doing well in dry weather in the East and wonders at its behavior in Iowa as told on page 18 of January issue. Since New York has so much higher average rainfall than Iowa it is probable that they seldom see such drought as commonly occurs with us, especially during recent unusually dry summers. The annual precipitation is nearly one third higher in the upper Hudson River Valley than in western Iowa on the average. It does appear that the Kent white clover is likely to prove more drought resistant than the common white Dutch clover, so long our main dependence for honey.

A Texas reader suggests that it would be better to wait until seed has set before cutting clover or alfalfa for hay. That would of course be greatly to the advantage of the beekeeper by giving better bee pasture. Some recent experiments have shown that alfalfa is better when not cut so often as is the general practice here. It is reported that for a five year period the northern farmer will get more tons of hay and that his field will not kill out so soon, if he cuts the alfalfa only twice each year instead of three times as is the common practice. In this way it would not be cut until the bloom has well advanced.

N. M. Lynde, of Denver, writes that he has been familiar with motherwort as a medicinal plant for more than fifty years. He quotes from a book on medicinal herbs to the effect that it is a true tonic nerve useful in hysteria and restlessness. Other helpful uses are also given. He reports personal benefit for muscular rheumatism and lumbago.

In days gone by our grandmothers depended to a large extent upon their own herb gardens but the particular uses of plants was too often guesswork. Since competent physicians are within easy reach few people depend upon home prescriptions any more.

There can be no question about the value of motherwort as a bee plant since the bees visit it eagerly as long as it remains in bloom.

More letters have come to me about the tamarisk as a source of honey in the Southwest. H. E. Weisner says that there are locations with little or nothing for the bees after the main honeyflow and in such places the salt cedar is valuable as a source of livelihood for the bees. He regards it as undesirable in neighborhoods where the bloom overlaps some good source of surplus honey, due to its low grade product. Honey from this tamarisk is regarded as unfit for table use and a little mixed with good honey will spoil the grade of a large amount. To find some source of support for the bees during the off season of harvest is a problem of interest to many bee-men.

J. A. Munro reports that sweet clover weevil is present in Manitoba but that it has not yet been found in North Dakota. It is too soon to tell yet whether it will prove to be serious in the sweet clover belt or whether it will be just one more insect in a long list of pests with which we must learn to live.

Mrs. Albert Spencer, of Seattle, is one of those enthusiastic beekeepers who believes in making the best possible use of honey at home. She says that she puts honey on the table for every meal and uses it to sweeten possible use of honey at home. She says that she puts energy and improving her general health. Even the canary likes honey and sings more than ever since he has it. Such enthusiasm is contagious and stimulates others.

In the early days of the Iowa Beekeepers Association the secretary was Hamlin Miller, a printer who kept a few bees for recreation. He was so enthusiastic about honey that he attracted attention all over the state. The paper he read at the second convention in 1913, "Bee-keeping as a Side Line," was a gem. It is printed in the second report of the Iowa Bee Inspector and is worth while reading even now if one happens to have access to that publication. Miller quoted his wife as saying, "You just ain't got any sense left. You put those bees to bed every night and wake them up in the morning. You are getting to be a regular old fool." He replied that it's grand to be foolish.

The Iowa Beekeepers Association plans two summer meetings this year. The one for the eastern part of the state will be held at Davenport about June 24. The one in the west is to be held at the Littlefield apiary at Exira probably on July 9. Exira is only about ten miles from our experimental apiary and honey plant garden in case any of the visitors should wish to pay us a call.

Harry Cross, of El Centro, California, calls attention to a story in a recent issue of a widely circulated magazine, which told of the death of a woman from eating poisoned honey. It was stated that arsenic used in dusting blueberries was carried to the hive by the bees working blueberry blossoms and stored in the honey. While it frequently happens that bees are killed from poison used in spraying or dusting, we have never been able to verify a case of human poisoning from the honey in such a case. It appears that the bees are killed by the poison before they store it in the combs. If such cases do occur it is highly important that all the facts be verified.

There are occasional reports of a perennial sweet clover somewhere in Asia. We have long tried to secure seed for American Bee Journal test gardens but thus far without success. We did secure seed from Australia which was said to be perennial sweet clover from Siberia but it proved to be biennial as other strains have done. So far we have found no sweet clover which was not either annual or biennial. A true perennial would be a great addition to our forage crops.

From Eldon Martin, of Goodwater, Missouri, comes a sample of light colored honey of mild but spicy flavor which he reports as coming from the stone mint (*Cunila organoides*) mentioned in the December postscript. This sample is of high quality and would soon find a place in any market. Martin reports the hills for miles around were covered with the stone mint and that there was an unusually heavy flow, most of which was mixed with sweet clover resulting in a very satisfactory blend. In his locality this plant may be depended upon to supply winter stores with a surplus every second or third year.

This is the season of influenza and one after another of the office force drops out to take a turn at fighting it. When some smart scientist finds a way to control that disorder he will confer a lasting obligation on his fellow-men. We would like to see him hurry up with it though.

FRANK C. PELLETT.